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ABSTRACT

The manual of alternative procedures for teaching handicapped children focuses on programming, planning, and implementing training in the gross motor (posture, limb control, locomotion) and fine motor (facial, digital) skills. The manual consists of the following sections: specific teaching tactics commonly used in motor training stiuations including shaping, task analysis, reinforcement, and behavior management; abstracts of training programs develcped by various training organizations; a listing of references (articles, books, movies, filmstrips) for background information for particular areas of motor training; listings of commercially available adaptive equipment; and a glossary of basic terminology pertaining to motor functioning. A major portion of the manual consists of instructional sequences for approximately 100 motor skills in the areas of facial control, head control, posture, limb control, locomotion, digital control, and bowel and bladder control. Each instructional sequence includes the name of the skill, a list of prerequisite skills, a recommended instructional approach, a list of appropriate adaptive equipment, a list of relevant abstracts, and a detailed task analysis. A listing of manufacturers of adaptive equipment is keyed to skill areas. Also included are bibliographies in the following areas: general, architectural barriers, home made equipment, media, and motor assessments. (DB)

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MANUAL OF ALTERNATIVE PROCEDURES:
MOTOR DEVELOPMENT

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PREFACE

This is the second of eight Manuals of Alternative Procedures (MAPs). Each provides teachers and other service deliverers with information on programming, planning, and implementing training. This manual is for the Motor skill area. This includes the Gross Motor Area (posture, limb control, locomotion) and the Fine Motor Area (facial, digital). The manual consists of the following sections:

- *Specific teaching tactics commonly used in motor training situations. Tactics described include shaping, task analysis, reinforcement, and behavior management.
- *Abstracts of training programs which have been developed by various training organizations.
- *References (articles, books, movies, etc.) for those desiring background information for particular areas of motor training.
- *Commercially available adaptive equipment designed to assist in the development and performance of motor skills.
- *A glossary of basic terminology pertaining to motor functioning.
- *Instructional sequences for over one hundred specific motor skills.

The tactics and procedures included in this manual are based primarily on work conducted at the Walter E. Fernald State School (Waltham, Massachusetts), the Hogan Regional Center (Danvers, Massachusetts), and the Shore Collaborative (servicing the communities of Chelsea, Everett, Makden, Medford, Revere, Saugus, and Winthrop, Massachusetts). The strategies and tactics developed at these

sites resulted from the combined efforts of professionals, para-professionals, and parents to create and implement training programs for handicapped children and young adults.

Inclusion of any training sequence/product/material in this manual is not an endorsement of that item by the Massachusetts Center for Program Development and Evaluation or by the Massachusetts Department of Education, but rather represents an attempt to provide diverse information about alternative strategies and tactics. In addition, arbitrary limitations often had to be applied to the inclusion of materials in certain sections due to space restrictions. When such limitations had to be made, materials that had the broadest application were selected.

Any of the materials in this manual may be photocopied. We hope that teachers who develop new training procedures will forward them to the Center for inclusion in future editions of the manual.

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INTRODUCTION

INTRODUCTION

The learning of motor skills offers the student a chance at greater independence in all areas of living. Without the mobility to express his needs, the student is trapped and isolated from the rest of society. Motor skills are required for language, ADL, academic and social skills.

Most people acquire motor skills without conscious effort and perform them automatically. For the handicapped student, however, these skills often represent tremendous barriers that must be overcome through strenuous effort.

The teaching of motor skills is a complex task for the classroom teacher; new assessment procedures must be investigated, objectives established, task analyses performed, instruction implemented, and performance monitored. Each of these steps must be successfully completed before the student can acquire the motor skills necessary to proceed to other life option situations.

In seeking a more viable approach to gathering planning information, the Massachusetts Center for Program Development and Evaluation, at the request of the Massachusetts Department of Education, has developed an assessment device capable of pinpointing performance over a broad spectrum of skills. The Motor section of the Educational Evaluation and Planning Package (1976) contains checklists which allow an assessor to indicate performance regarding more than one hundred skills. By using this device in combination with other assessment procedures, an assessor should be able to specify student appropriate objectives and determine appropriate teaching tactics.

Alternative Reactions to Identified Motor Objectives: When assessment results indicate that a student needs to acquire certain motor skills, the teacher must make a number of decisions. First, it is necessary to determine if the skill can be acquired by modifying the physical and/or behavioral environment. If not, the appropriate instructional tactics must be identified, the appropriate instructional sequence adopted or developed, and the necessary support tactics determined. Once these decisions are made, instruction may begin; however, performance must constantly be monitored in such a way as to allow for the pinpointing of any necessary instructional modifications.

As previously stated, the initial task is to determine if modifying the bahavioral and/or physical environment will allow the student to display the skill. Possible actions within this non-instructional intervention category include removing architectural and physical barriers (widening toilet stalls, providing wheelchair ramps), providing assisting devices (hand bars), prescribing prosthetic devices (dorsal feeding splints), or altering the inherent consequences of the environment (eliminating punishment, arranging positive consequences, etc). If environmental modification is not sufficient to allow performance, then it may be necessary to determine an appropriate instructional intervention.

USING THE MOTOR MAP

This manual consists of six sections. The first, "Strategies for Teaching Motor Skills", provides an overview of the various strategies/tactics that can be used by teachers to help students acquire motor skills; topics discussed include reinforcement procedures, task analyses, instructional tactics (shaping, modeling, etc.), data collection/analysis, behavior management, and support activities. The second section consists of over one hundred individual instructional sequences (e.g, the procedures used in a series of controlled training situations) designed to assist a student in attaining a specific skill. There are potentially hundreds of ways to achieve an objective and all are equatlly valid until empirical data indicates the superiority of some to others. The teacher generally determines, through task analysis, the steps the student must go through to move from his current level of performance to that required by the target skill. Once this is completed, the teacher selects the strategies and tactics to be used to help the student progress.

The sequences are organized so as to follow the general outline of the Motor Development section of the Educational Evaluation and Planning Package Vol. 1) an assessment device used to pinpoint motor skills. Therefore, they are organized by sub skill, with specific objectives in each skill area.

*facial control
*head control
*posture
*limb control
*locomotion
*digital
*bowel and bladder

Before attempting to use the manual, teachers should read section 1, "Instructional Intervention", to acquire a general understanding of the approaches and terms used in the manual. Although detailed information is provided on some topics, a teacher who desires in-depth information about a specific tactic should consult the reference section. The more comprehensive the teacher's understanding of the topic, the easier it will be to modify the instructional sequences to meet the needs of individual students.

To most efficiently use the "Instructional Sequences" section of this manual, a teacher should establish specific objectives for a student. The objectives in these sections are grouped according to skill clusters.

Pre-Requisite Skills:
After locating the suggested sequence, the teacher should determine if the student has the indicated prerequisite skills. If not, the teacher must decide whether it is more economical to teach the prerequisite skill as part of the objective under consideration or to teach the prerequisite separately and proceed with the objective at a later date. It should be noted here that some students can acquire the objective without the prerequisite skills listed. This can be achieved by providing adaptive equipment that compensates for the motor disability.

Recommended Instructional Approach:
The manual offers strategies to employ when teaching the skill (shaping, fading, etc.). These stategies are discussed in the "Instructional Intervention" section of the manual. After reacing

the strategies, the teacher should use the one that is most appropriate for the student.

Available Adaptive Equipment:
This section lists the commercially available adaptive equipment that can be used to help the student perform the skill. A description and illustration of each item can be found in the equipment section of the manual along with the manufacturer's name.

Relevant Abstracts:
A list of national programs that deal with teaching motor skills. A description of each program and the skills addressed can be found in the "ABSTRACTS" section.

Task Analysis:
The task analyses found in this manual reflect the component motor movements necessary to perform the objective. Performing these steps fluidly in a chain constitutes acquisition of the skill. Since the number of steps that comprise a task analysis is theoretically unlimited, the teacher must determine an initial level of analysis. The basis for thsi determination for a particualr student is that the sequence reflect the particular student's need. Some students perform skills that are outside the developmental order and in ways other than described in this manual. For example, if the lower body is physically involved, the student may rely on the upper torso to perform the skill. For example, in throwing a ball, we have provided a sequence in which the student assumes a standing position. This skill can be performed by students in wheelchairs or sitting on the floor. The teacher should be aware of these variables before employing the task analyses in this manual and make any necessary modifications before using them. The student should be allowed to perform using the pattern that is easiest for him unless using that pattern strengthens abnormal tone or abnormal reflexes. For example, "W" sitting, (from a kneeling position,putting the bottom on the floor) is easier for a cerebral palsied child, but can cause further deformities. This also applies to activities whose purpose is to strengthen underdeveloped muscles.

Subskill and Cluster:

The Motor skills section in which the objective is located.

Objective:

The specific Motor objective this sequence is intended to develop.

Prerequisite Skills:

The entry skills the student should possess to most expediently begin the sequence.

Recommended Instructional Approach:

The suggested instructional tactic (shaping, modeling, etc.) that can be employed to teach the skill. The various possibilities, their combinations, and the respective rationale, are provided in the teaching tactics section.

Available Adaptive Equipment:

Commercially available equipment that may assist the student in acquiring the objective.

Relevant Abstracts:

National programs that deal with the teaching of motor skills.

Task Analysis:

The sequential steps needed to perform the skill. If necessary, each of the steps can be divided into substeps and modified to meet the needs of the individual.

LOCOMOTION/JUMPING

JUMPS FORWARD (TWO FEET)

PREREQUISITE SKILLS: stands without support, flexes and extends legs, transfers weight

RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance, modeling

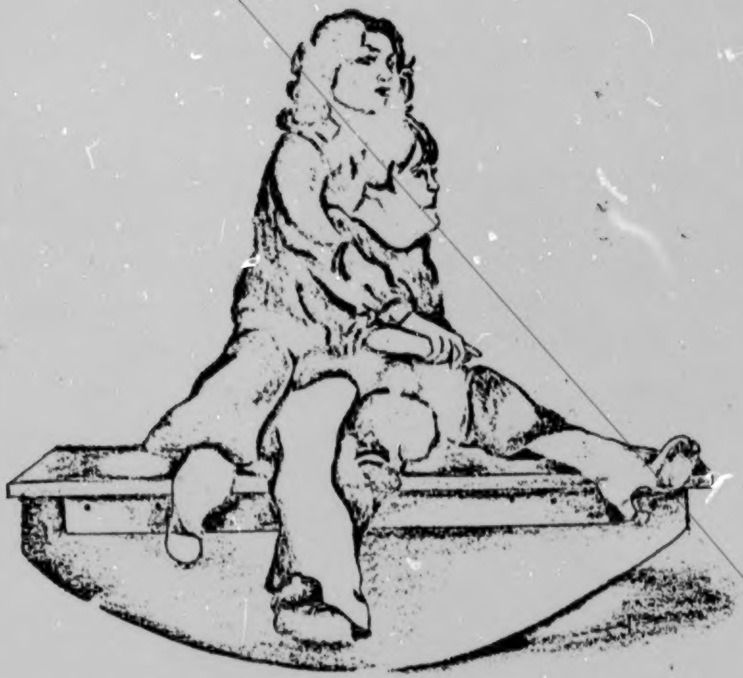
AVAILABLE ADAPTIVE EQUIPMENT: trampoline, rocking board

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Project Memphis, Teaching Resources Curriculum

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. bend knees, lowering body
3. bend forward at waist
4. bring arms back from shoulders
5. push off heels to toes while thrusting arms forward, extending arms and legs
6. land heel to toe, knees bent to absorb impact
7. return to erect position

INSTRUCTIONAL INTERVENTION



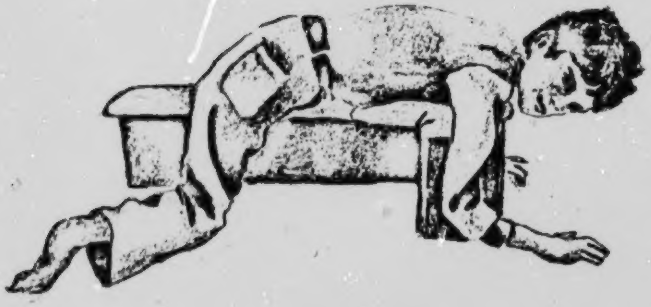
INSTRUCTIONAL INTERVENTION

Some of the first behaviors exhibited by a child are motor skills. In normal development, these behaviors follow a sequence that leads the student from uncoordinated weak movements to sophisticated control of coordinated and purposeful body movements. For the mentally or physically handicapped student this development is often delayed or uneven. The degree of delay or uneven performance as well as the apparent cause are critical factors in the determination of appropriate training procedures. Initially, assessment information should help the teacher determine which of three general instructional procedures is most appropriate. These approaches are:

> teaching motor skills to the ambulatory individual who is not hindered by physical handicaps and who can possess the prerequisites necessary to perform the skill independently
>
> teaching motor skills to the physically handicapped individual who may require some kind of adaptive equipment to enable him to perform the skill
>
> teaching motor skills to the individual who has already mastered the skill but does not demonstrate the skill due to a lack of motivation or improper generalization training

Once this consideration has been dealt with, the teacher can decide on the strategy to employ that will successfully teach the skill.

The first step in instructional intervention is identifying appropriate strategies and tactics. Given the student's level of functioning in various skills and overall performance patterns, what procedures should be used in the intervention? Some strategy decisions include the type of intervention (play centered, behavior modification, sensory stimulation, etc.), size of instruction (one to one, small group, etc.), and support activities. Tactic decisions refer to factors such as primary/receptive/expressive mode, reinforcement preferences, attention span, etc.



REINFORCEMENT PROCEDURES

Teaching motor skills can be accomplished through a variety of strategies. Regardless of the strategy employed, success will usually be accelerated by using the principles of reinforcement therapy. The question of whether or not to use reinforcement is academic since every teacher, consciously or unconsciously, uses rewards in some manner. The issue is how and when the teacher uses reinforcement procedures and how systematically they are applied.

A basic component of skill training is awareness and consistent application of reinforcement pordecures. Reinforcement, like cues and assistance, is only one of the variables in the learning process. Like the other variables, it should be manipulated to help the student move toward independence. It is a component that should change as the student progresses. Generally, the progression is from extremely individualized rewards to those which commonly are found in our society (intrinsic, social, monetary). The acquisition of motor skills is intrinsically reinforcing as it allows the student more independence in exploring and interacting with the environment.

Simply stated, when a student does something correctly, the teacher attempts to reward him; for example, the student may receive verbal praise for independently performing a motor task, climbing stairs, walking appropriately, feeding himself, etc. The rationale for this action is that when rewards are applied systematically for a specific behavior, the student will repeat the behavior to receive the reward again. Sometimes teachers do not consistently deliver rewards; occasionally, a student even may resist a teacher's attempt to reward him. The teacher may not consider either of these important, but they often can have serious ramifications on learning.

Two essential aspects of implementing a successful reinforcement procedure are determination of appropriate rewards and delivery of those rewards. Preferred rewards vary according to ~~the student and~~ sometimes to the situation. Some students like to be praised by their teachers, others don't care; some prefer to play with their peers, others prefer to be alone; some physically handicapped students may resist attempts to reward them. These students are often not interested in edibles; sudden touches or hugs may increase spasticity, and vibrators may induce seizures. The only way to find out if a particular reward is reinforcing is to see if the student's behavior occurs more frequently when that reward follows the behavior. There are various procedures that will help the teacher identify potential reinforcers.

Detailed below is a recommended hierarchy of procedures used to determine potentially reinforcing situations for a specific student.

1. If possible, ask the student.
2. Question others who have been associated with the student and have had ample opportunity to observe likes and dislikes, e.g., parents, teachers, ward personnel.
3. Observe the student in a natural environment (home, classroom, ward) and determine through observation likes and dislikes.
4. Observe the student in an arranged environment where a number of potential reinforcers are available. One possible plan is to put four or five potential rewards (piece of candy, a toy, a chip, etc.) on a table and ask the student to take one. Repeat this procedure and remove the item if it has been chosen in two successive trials.

Following the question and/or observation period, it should be possible to priority rank a student's potential rewards by their specific characteristics:

* strength - Rank from apparent strongest to apparent weakest. It also is necessary to consider the saturation curve of the reward: that is, how long does it maintain its initial strength? For esample, a cup of Coke may be a strong reward, but after four or five cups it may lose its reinforcing capabilities.

* disruption - How difficult is it to dispense the reward, i.e., how upsetting is it to the training situation? A piece of hard candy may be easy to dispense but if a student requires three or four minutes to eat it (and, thus, does not concentrate on the task), it could be extremely disruptive. It also is essential to consider the disruptive characteristics of a reward if it is to be used in group instruction.

* measurability - Can it be measured in quantifiable amounts for duplication by others? Items such as candy and cereal are relatively easy to measure (one piece of candy, two teaspoons of cereal), while social rewards are difficult to measure due to individual teacher differences.

* social acceptability - Certain reinforcing activities may upset those who have to work with the student. Rewards, such as twirling or ripping pages out of a book, may be labeled "bizarre" and "socially unacceptable" by staff or parents. It is necessary that the teacher be as willing to give the reward as it is for the student to want the reward.

Then the teacher should answer the following questions:

* item - What is the reward: food, liquid, token, social, intrinsic, etc.

* schedule - Does the student get the reward after each correct response, for every two or three correct responses, at the end of session, etc.?

* quantity - Does the student require a whole glass of juice after each correct response or half a glass?

Rewards should be given immediately following the behavior to be strengthened; for example, in teaching a student to climb stairs, as soon as the feet come to rest on the landing, the reward should be given. If the reward is playing with a toy or spending time in a particular setting, immediate presentation of the reward is difficult. Ideally, the student should be allowed to play with the toy or stay in the setting and then be brought back to the activity; however, beside being time-consuming, such a procedure can result in a tug-of-war. Therefore, it is beneficial to try to find reinforcers which can be delivered and terminated easily.

During the skill acquisition phase, it is important to deliver rewards each time the student performs the task in order to maintain the student's performance. The teacher can shape the student's performance by rewarding those behaviors which approximate the desired skill. Eventually, only when the student has performed the entire task correctly is a reward delivered. Once the student has learned the behavior, a reward may be delivered sporadically to maintain it .

Rewards should be delivered according to a reinforcement schedule, a plan which describes when they are to be disseminated. Schedules generally are specified by either the number of responses emitted or the lapse of time. If a student is rewarded after completing a specific number of tasks or trials, this is a fixed ratio schedule, e.g., one response - one reinforcer (FR1), four responses-one reinforcer (FR4). Generally, fixed ratio schedules are used during initial training to maintain the rate of responding. Variable ratio schedules are those in which the number of responses necessary before reinforcement varies; that is, sometimes the teacher requires three responses per reward, sometimes five, sometimes seven (all, however, revolve about a specific mean, in this case, five). Variable ratio schedules are used to increase the rate of responding .

The scheduling of reinforcement delivery also can be based on time intervals. In a fixed interval schedule, reinforcement is delivered after a specific amount of time elapses (one reinforcement per minute, etc.). The student must emit a correct response after the designated time limit in order to receive the reinforcer. A variable interval reinforcement schedule alters the amount of times between reinforcements (one munute for the first reinforcement, three minutes for the second two for the third, etc.), once again varying about a mean. Interval schedules generally are used to maintain performance over extended time periods.

TACTICS

There are a number of instructional tactics which can be used to help students acquire motor skills. However, a tactic that works well for one student will not necessarily be successful with another. When one method proves ineffective for a particular student, the teacher should be aware of other alternative approaches.

As previously stated, the teacher should examine the physical and behavioral environment to determine if the target behavior can be achieved through their manipulation. If these changes do not allow the student to demonstrate the skill, then an appropriate tactic must be chosen.

Shaping:

Shaping is a procedure in which reinforcement is administered systematically for each step towards approximation of the desired task. Initially, a reward is given when the student performs a part of the task that is already in his repertoire. Gradually the student is expected to do more and more of the task for the reward. Finally, the student only receives the reward after performing the entire task. For example, when teaching stair climbing, initially reinforcement might be given when the student moves towards the stairs; then the student may be required to place a hand on the handrail before the same reinforcement is given. This gradual change in criteria continues until the student is required to perform the entire task before being reinforced.

Total Physical Gudance:

Initially, when teaching a new motor skill, a great deal of teacher assistance may be required. This involves physically guiding the student totally through the appropriate motor pattern. This guidance should be paired with a verbal instruction. For example, in teaching a student to climb stairs, the teacher should fully guide the student through the entire sequence while giving the instruction, ("Good, you're climbing the stairs.").This guidance is continued until the student begins to initiate some of the movement independently.

Fading:

As the student becomes more competent at performing each step, assistance should be gradually reduced. This reduction of assistance is called fading. For example, in teaching stair climbing, it may be necessary to provide physical and verbal assistance for each step, i.e., say "Lift your foot", while helping the student to lift his foot. When the student begins to demonstrate some ability to perform the step independently, the teacher should reduce the physical guidance and give only the verbal cue. The fading of physical and verbal cues continues until only the initial instruction, "Climb the stairs", is required.

Modeling:

Teaching imitation skills can be very useful in the training of more complex motor tasks such as climbing stairs or jumping. If a student comes to a task with the necessary component movements and only lacks training in the target behavior, the teacher can model the behavior by performing each componentand accompanying it with the cue, "Do this". This allows the student to see the appropriate performance of each step. As the student progresses, steps should be combined until the demonstration is performed at the normal rate. Once the student is able to follow the normal rate demonstration, the physical demonstration should be faded to an initial verbal instruction, "Jump".

Graduated Guidance:

There are various levels of assistance that teachers can use when working on motor skills (e.g. climbing stairs). All of the levels are preceded by an initial direction - "Mary, climb the stairs" - at which point the teacher prompts the students to complete the task. These prompt levels can be monitored by the teacher and changed as the student is more able to function independently. The prompt levels are defined as follows:

* total physical guidance: After the initial command, the teacher completely guides the student through each part of the skill. When guiding the student, the teacher can say, "Good, Mary, you're climbing the stairs."

*partial physical guidance: The teacher uses partial physical guidance when the student begins to display some of the skills in stair climbing without guidance from the teacher. For example, the teacher may say, "Mary, climb the stairs", at which point Mary gets up from her chair, and with direction moves towards the stairs. She does not attempt to climb them, so the teacher provides partial physical guidance to Mary while she is going to the stairs. The teacher continues to tell Mary that she's doing a good job climbing the stairs throughout the activity.

* verbal cue: For some students, those who can do each part of a skill but have trouble putting all the steps together, a verbal direction offered by the teacher will be enough to help the student complete the task.

* independence: When the student is able to complete the task without any assistance from the teacher after being provided with an initial direction, the student can be said to be independent at that skill.

This system of prompts allows the student always to complete the task; sometimes he may need help; other times he may be independent. It allows the teacher to monitor the student's movement toward independence as prompts are faded when the student becomes more proficient at the skill.

Data Collection and Analysis:

Once the task has been broken down into its sequential steps and the instructional tactics identified, the teacher must determine what scoring system to use to monitor the learner's performance. This can be accomplished through a point system correlated to the amount of teacher assistance required by the student to accomplish the step.

POINTS	ASSISTANCE
4	independence
3	verbal cue
2	partial physical guidance
1	total physical guidance
0	refused all attempts to assist

To start the sequence, the teacher gives the student full physical guidance for the entire task. As the student begins to demonstrate some knowledge of the skill this assistance is gradually faded to partial guidance. This assistance continues until the student is performing the skill independently with only an initial verbal instruction. Each time the student moves from one step to the next, points are recorded.

Using this scoring procedure, each skill has a point score that represents independent completion of the task. For example, there are 16 steps involved in climbing three stairs. For each step independently performed, the student receives 4 points (total points would be 4x16=64 points). Scores can be recorded on a simple record point chart that allows the teacher and others to monitor the student's progress. Before recording any scores, the teacher can draw a horizontal line at the point value that represents independent performance (i.e., 64 points). Thereafter, the teacher merely records the score for each successive training session.

The teacher should monitor progress by periodically checking each point chart. The teacher must determine what is "acceptable progress" prior to conducting the sequence, i.e., the student will improve by at least 4 points every three sessions. As long as the student continues to make "acceptable progress", there is no need to modify instruction. However, if the student fails to progress, the teacher must evaluate the data to determine instructional modification.

After checking the data sheet, the teacher should be able to identify any performance patterns. There are generally two patterns of performance, overall lack of progress and specific steps that appear to be presenting consistent difficulty. In situations where there is a general lack of progress, the teacher should consider major changes in instruction; these include using a new instructional procedure, changing reward, changing tutor (if possible), etc. When the difficulty appears to be with one or two specific steps (common when instruction first begins) the teacher should consider alternative ways of teaching that specific step. One alternative is to break the step into substeps and practice each sub-step separately. This often allows the teacher to pinpoint exactly where the student is having difficulty. Once this is accomplished, the teacher can have the student practice the task along with various other activities during the day. If the difficulty involves a major skill deficit, the teacher may postpone the instruction until a physical therapist can make suggestions about remedial activities.

STUDENT: LEE

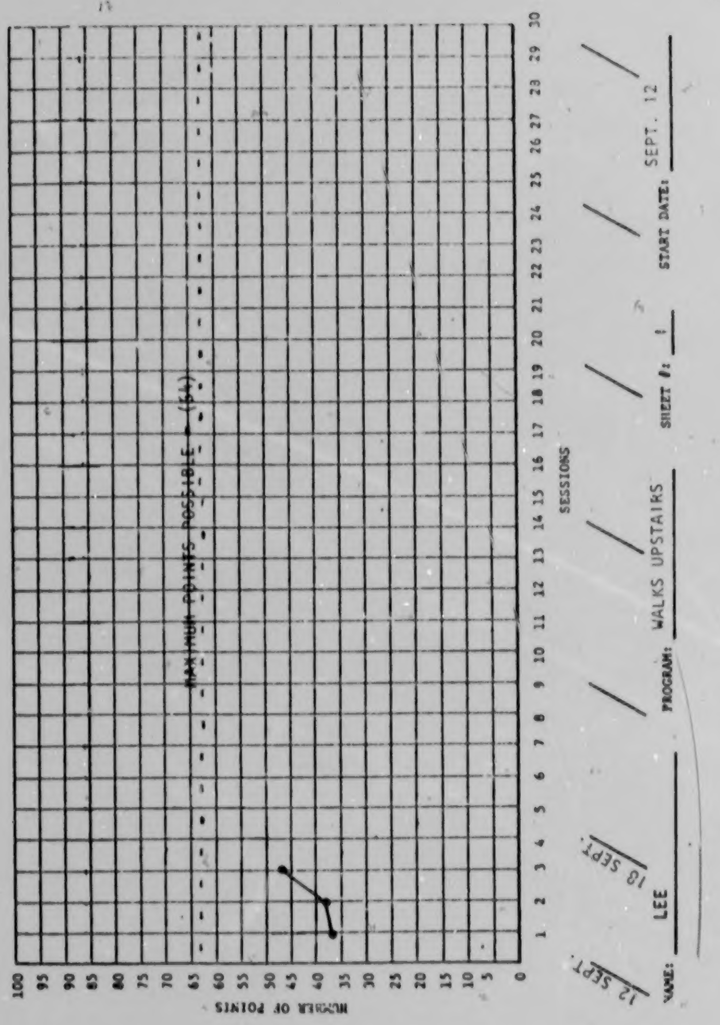
STAFF: MARY

PROGRAM: WALKS UPSTAIRS

DATE:	12 SEPT.	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1. stand at foot of stairs	1	1	2												
2. place hand on handrail	4	3	3												
3. lift alt. foot above 1st step	1	1	2												
4. place alt. foot on step	4	4	4												
5. push off dom. foot, shifting weight to alt. side	1	1	1												
6. lift dom. foot above 2nd step	1	1	2												
7. place dom. foot on 2nd step	4	4	4												
8. move hand up handrail	1	2	2												
9. push off alt. foot, shifting weight to dom. side	1	1	2												
10. lift alt. foot above landing	1	1	2												
11. place alt. foot on landing	4	4	4												
12. push off dom foot, shifting weight to alt. side	1	2	3												
13. lift dom. foot above landing	1	1	3												
14. place dom. foot on landing	4	4	4												
15. release handrail	4	4	4												
16. return to erect position	4	4	4												
TOTAL:	37	38	46												

SCORING KEY:
(4) independent
(3) verbal cue
(2) partial physical guidance
(1) total physical guidance
(0) refused to do

TOTAL POSSIBLE POINTS: (64)



BEHAVIOR MANAGEMENT

It is not uncommon for students who are in the process of acquiring new skills to display certain disruptive behaviors, regardless of how well the instruction is organized. Many times these behaviors reflect an established pattern for dealing with people and/or learning situations. The teacher must plan ahead to cope with these behaviors, since, if they remain unchecked or are inappropriately responded to, they can totally prevent skill acquisition. There are several tactics that traditionally have been used to cope with behavior problems. The appropriate tactic depends on the specific situation and specific behavior.

Extinction:

One tactic often used to cope with behavior problems is ignoring the behavior. No attention is given to the student for exhibiting the behavior; this leads to what is called extinction. This procedure can be used to eliminate disruptive behaviors in the classroom or to eliminate other behaviors which compete with the desired behavior. Theoretically, if the student receives no attention for the disruptive behavior, the student will stop exhibiting the behavior. To be effective, ignoring of a behavior must be consistent. If ignoring the behavior is inconsistent, the disruptive behavior will be strengthened. When ignoring is used, it is generally accompanied by an initial increase in the behavior. This "burst" occurs because the student is trying to get attention in a manner that has proven successful in the past. It should be expected and ignored; however, the increased frequency can be minimized if the student is provided with the opportunity to perform appropriate behaviors which are rewarded. The time required for the frequency of disruptive behavior to decrease is dependent on the behavior's reinforcement history.

Time Out:

Time out is an alternative to ignoring. In time out, the student is removed from a rewarding situation (from the playground, from the table) for a short time. The rationale is based on the belief that the student will begin to learn that disruptive behavior means removal from "fun" activities. As with the other tactics, time out must be used consistently to be effective. Students should stay in "time out" for brief periods (up to five minutes) and be reintegrated into the activity as soon as the time out period is over. Time out is most effective when used for disruptive behaviors which occur when the student is engaged in an enjoyable activity.

Disruptive or inappropriate behavior generally is related to attention seeking, skill deficiency or self stimulation. Any reactionary behavior by the teacher tends to feed the attention seeking, condemns the student for not exhibiting skills not taught, or demands that the student not be bored by an unstimulating environment. Reactionary behavior does not change any of these situations; it only causes a constantly growing concentration of staff energy on counterproductive activities.

To break the "no win" spiral, it is necessary to reform the teacher/student relationship by concentrating on positive interaction. Teacher/student interactions must become pro-active; that is, they must prevent disruptive behaviors rather than react to them. The "pro-active" approach requires the acknowledgement that the responsibility for dealing with disruptive behavior falls on the teacher not the student. The basic tactics in pro-active behavior management involve:

- interruption of established disruptive behavior chains
- environment re-arrangement to reduce or eliminate the probability of the behavior occuring
- if the behavior does occur, if possible, it is ignored and the student immediately is redirected to a positive behavior and reinforced
- delivering continuous positive reinforcement for all appropriate behavior

To implement these tactics, the teacher must concentrate on replacing reactive thinking with pro-active thinking. This requires attitudinal change and new skills. Although initially these require a considerable time committment for changing attitudes and planning activities, in the long run, there can be a more significant decrease in time devoted to reacting to disruptive behavior. More important, it can change the atmosphere of the learning environment from confrontation to constructive cooperation.

SUPPORT ACTIVITIES

To accelerate the skill acquisition process, the teacher can provide support activities outside the training session. These support activities are not intended to develop a specific skill but rather provide a vehicle for the development of many skills (language, social, motor, etc.). Support activities not only give the student more opportunities to "practice" the skill but also help with skill generalization.

Three major clusters of support activities are music, aquatics and sensory stimulation. Music provides a rhythmic background for movement activities. The teacher can have the student move his body to a beat. This kind of activity can be done through structured dancing or creative movement. These activities aid in developing body awareness and proprioception, the awareness of one's body in space. Aquatic activities greatly enhance body relaxation. Movement is made easier because of the natural buoyancy provided by the water. Sensory stimulation is a means of motivating the senses either by external stimuli or direct physical contact with the student. The teacher can use a variety of stimuli that have shown to be appealing to the student. These can be toys, sounds or people that will motivate the student into producing the desired behavior. For example, if the behavior being taught is head rotation, the teacher can place a desirable toy on either side of the student's head that will encourage movement in that direction. The student is more likely to explore the environment if the environment is made stimulating. However, it should be noted that the student should not be bombarded with an "overdose" of stimuli as it could increase defensiveness and be counterproductive.

In teaching skills that occur early in the developmental chain, e.g., grasping, flexing, lifting the head, etc., to physically handicapped students, it is important to find a position in which the student relaxes. Positioning and relaxation are prime considerations in helping physically handicapped students perform motor skills. The teacher should consult a physical therapist to find the position which inhibits abnormal reflexes that interfere with the student's ability to attend to the task at hand. Positioning helps to normalize tone and decrease the occurence of abnormal reflex patterns. Support should be given at key points on the student's body: neck and spine, the shoulder girdle, and the pelvic area. These points control the amount of muscle tone present in the extremities (Bobath). The proper position can be achieved by using bolsters or holding and arranging the student in a position that promotes relaxation. Again, consultation with a P.T. or O.T. should be made to find out what activities encourage relaxation. Relaxation activities can be performed before each teaching session to achieve greater flexion and extension and overall performance. To relax the whole body the student can be placed on a slightly deflated beach ball, Bobath ball, or thick wad of foam padding. Lying in a supine position encourages extension while a prone position encourages flexion. Slowly bouncing the ball will help relax the trunk and limbs. In successive sessions the teacher can produce greater movement of the ball. Holding a student either in one's arms or seated in one's lap close to the body and slowly rocking him will help to relax the body. As with all the areas of this manual, the teacher should consult with a physical therapist to find out what activities are most appropriate fo individual students.

Other skill areas essential to motor development that can be addressed through these activities include:

sensory awareness
perceptual accuracy
spacial relations
tactile discrimination
receptive language
expressive language

A coordinated program of motor skill development sessions and support activities can effect significantly the speed at which objectives are attained.

Summary:
Handicapped students who need to acquire motor skills offer our public education system a new challenge. In order for these students to have appropriate and sufficient services, administrators and teachers must be prepared to move beyond the artificial limitations imposed by traditional educational models.

Before attempting to teach many of the skills in the Motor MAP, the teacher should consult with a physician and physical therapist to determine the advisability of teaching the skill at this point in the student's development.

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FACIAL CONTROL

FACIAL CONTROL

FEEDING

In developing feeding skills, it is important to control the student's whole body. This can be achieved through proper positioning which inhibits those patterns that interfere with feeding and compensates for inadequate coordination and muscle control. The legs should be kept from scissoring, arms and head should be brought forward from the shoulders. Swallowing, head, and mouth control areeasier in an upright position. Towels or padding can be placed behind the neck to assist the student in sustaining this position. This should not be done for hypotonic students and students with flexor patterns. Firm stroking down the neck area of the spinal column will help a student hold his head up. For students who require assistance in keeping from falling forward, a harness or chest support can be used.

Food should always be presented in the direct line of vision. This will prevent the student from turning his head to locate the food which could cause unwanted reflex actions. Lip control can be applied by placing the index finger above the lip, and the middle finger below the lip to aid the student in opening and closing his mouth. (see figure 1) Jaw control can be applied by placing the thumb and index finger on opposite corners of the mouth just below the cheekbones. (figure 2) Chewing can be facilitated by placing the thumb on the chin and the index finger on the side of the face. When food has been placed between the teeth, the jaw can be manipulated in an up and down motion. (figure 3)

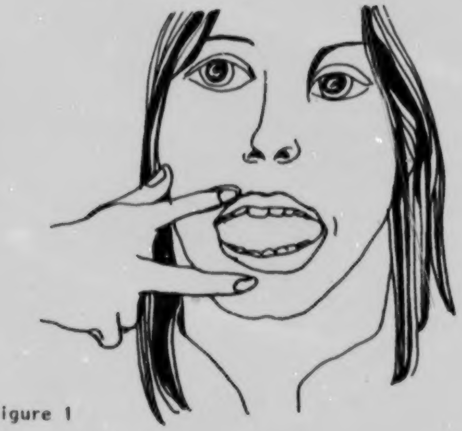


Figure 1

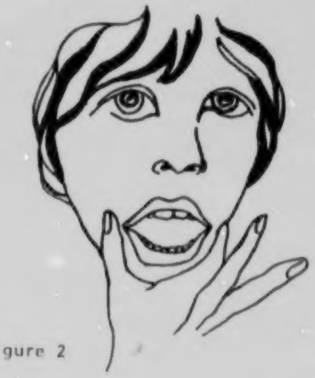


Figure 2

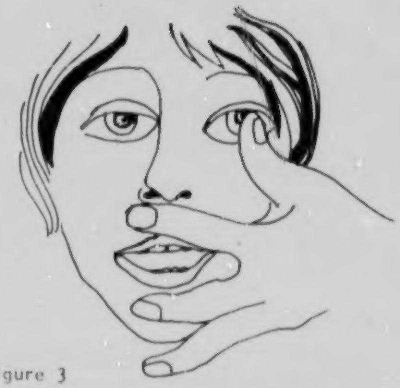


Figure 3

When presenting food, place the spoon towards the front of the mouth as it is harder to take food off with the lips if the spoon is placed too deeply in the mouth. Press the spoon firmly on the tongue, being careful not to scrape the spoon on the teeth or lips when inserting and removing the spoon. Initially, place only a small amount of food on the front of the spoon. When removing the spoon, make sure the mouth remains closed so the tongue can move the food around in the mouth.

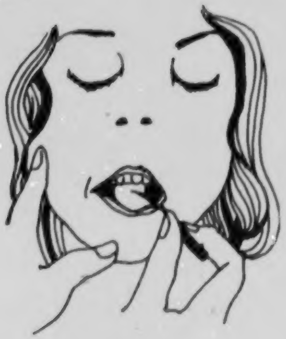
When teaching independent feeding, it initially may be necessary to provide total physical assistance to develop the spatial relationship of the hand-to-mouth pattern. As the student becomes more proficient at feeding himself this assistance can be faded.

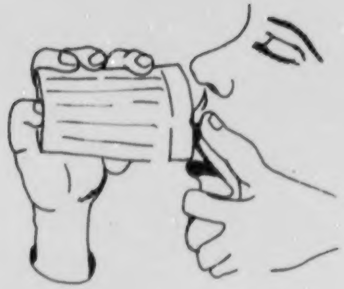
When teaching drinking, assistance can be provided in the following manner:

1. Be sure the student holds his head upright. Tilting the head back causes abnormal swallowing.

2.

2. Place your thumb on the upper lip, index finger on the chin, and third finger under the jaw.
3. To help the student open his mouth, push up lightly with the third finger
4. To help the student seal his lips around the glass, use the index finger to hold the upper lip against the inside rim of the glass and hold the lips closed until the student swallows.





FACIAL CONTROL

TAKES FOOD OFF SPOON BY SEALING LIPS AROUND FOOD

PREREQUISITE SKILLS: grasps, flexes and extends arm

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: utensils - built-up, swivel, extension handle, angled, expanded, utensil holder, dorsal feeding splint, vertical or horizontal palm self-handle utensils, pulley eater, ball-bearing feeder

RELEVANT ABSTRACTS: Corvallis, Portage Project

TASK ANALYSIS:

1. grasp spoon
2. move spoon to plate
3. scoop food onto spoon
4. flex arm, raising spoon to mouth
5. open mouth
6. move food into mouth
7. when bowl of spoon is completely in mouth, close lips around food
8. move spoon out of mouth, keeping lips sealed to contain food
9. return spoon to plate
10. eat food

FACIAL CONTROL

USES LIPS, TONGUE, TEETH TO REMOVE FOOD FROM UTENSIL

PREREQUISITE SKILLS: closes lips, swallows

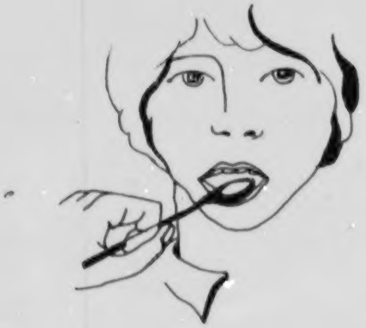
RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

AVAILABLE ADAPTIVE EQUIPMENT: feeding mechanisms

RELEVANT ABSTRACTS: Portage Project

TASK ANALYSIS:

1. open mouth around spoon
2. when bowl of spoon is completely in mouth, close lips firmly
3. as spoon leaves mouth, push tongue against bottom of bowl and teeth against top, lips closed so that food is pushed against inside of lips
4. keep lips closed to contain food when eating



FACIAL CONTROL

LOCATES MOUTH WHEN EATING WITH FINGERS

PREREQUISITE SKILLS: grasps, flexes and extends arm

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: feeding mechanism

RELEVANT ABSTRACTS: Corvallis, Portage Project

TASK ANALYSIS:

1. extend arm to plate
2. place fingers around food
3. grasp food
4. raise food to mouth
5. open mouth
6. move food into mouth
7. close mouth around food and fingers
8. remove fingers from mouth

FACIAL CONTROL

LOCATES MOUTH WHEN EATING WITH UTENSILS

PREREQUISITE SKILLS: grasps, flexes and extends arm

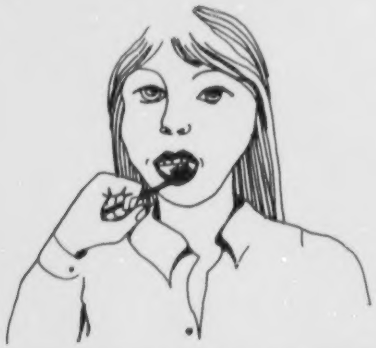
RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: utensil holders, vertical or horizontal palm self-handle utensils, feeding mechanism, dorsal feeding splint, food guards, scoop dish, pulley eater, sporks, suction holder, utensils - angled, extension handle, swivel, expanded handle, built-up

RELEVANT ABSTRACTS: Corvallis, Portage Project

TASK ANALYSIS:

1. grasp spoon
2. bring spoon to plate
3. scoop a portion of food onto utensil
4. raise spoon to mouth
5. bring bowl of spoon to front of mouth
6. move bowl of spoon into mouth
7. close mouth around food
8. remove utensil from mouth, keeping lips sealed
9. return spoon to plate



FACIAL CONTROL

MUNCHES
(CHEWS UP AND DOWN)

PREREQUISITE SKILLS: seals lips around food

RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

RELEVANT ABSTRACTS: Corvallis, Portage Project

TASK ANALYSIS:

1. open mouth around food
2. move food into side of mouth
3. close teeth around food
4. bite down on food in up and down motion until food separates
5. swallow

FACIAL CONTROL

DRINKS THROUGH A STRAW

PREREQUISITE SKILLS: seals lips, sucks, swallows

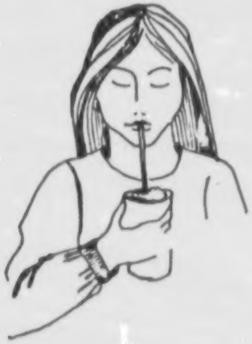
RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

AVALIABLE ADAPTIVE EQUIPMENT: lazy-susan glass and straw holder

RELEVANT ABSTRACTS: Portage Project

TASK ANALYSIS:

1. open mouth around straw
2. close mouth around straw, sealing lips
3. breathe in through the straw until one mouthful of liquid is in mouth
4. swallow liquid
5. open mouth
6. remove straw from mouth

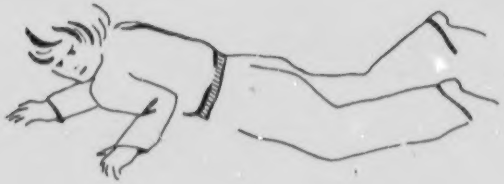


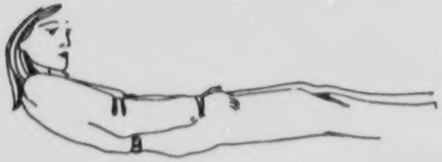
HEAD CONTROL

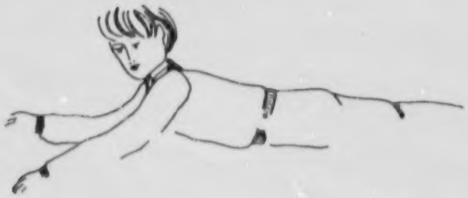
HEAD CONTROL

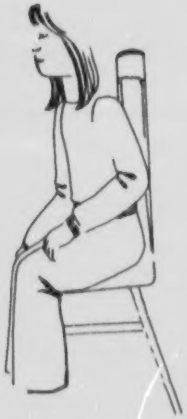
Head control is the ability to lift, turn and stabilize the head in prone, supine, and sitting positions. Care should be taken to find the body position which encourages the desired response.

Environmental stimuli such as toys, noisemakers, etc., placed on either side of the student's head encourages movement. Raising the head from a prone or supine position is more likely to occur if there is something interesting and reinforcing above or beside the head.









HEAD CONTROL

LIFTS HEAD IN PRONE

PREREQUISITE SKILLS: relaxes, moves head

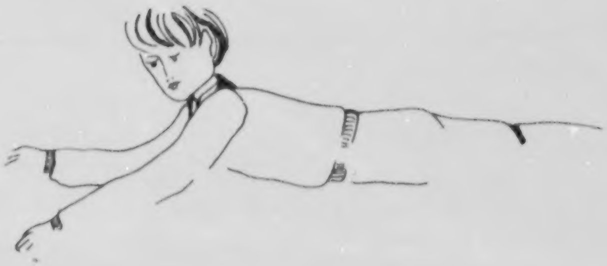
RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

AVAILABLE ADAPTIVE EQUIPMENT: positioning wedges

RELEVANT ABSTRACTS: Corvallis, Handling the Young C.P. Child at Home, Marshalltown Project, Portage Project, Project Memphis, Teaching Resource Curriculum

TASK ANALYSIS:

1. lie flat on mat in prone position
2. lift head 1" off mat
3. return head to mat
4. repeat, increasing height head is lifted in 1" increments and extend time that position is sustained over successive sessions



HEAD CONTROL

LIFTS HEAD IN SUPINE

PREREQUISITE SKILLS: relaxes, moves head

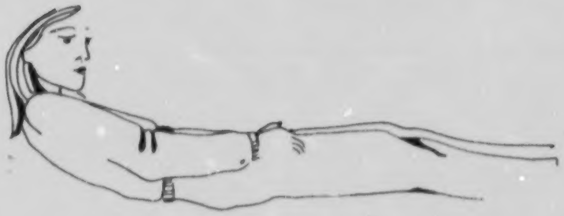
RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

AVAILABLE ADAPTIVE EQUIPMENT: positioning wedges

RELEVANT ABSTRACTS: Corvallis, Handling the Young C.P. Child at Home, Marshalltown Project, Portage Project, Project Memphis, Teaching Resource Curriculum

TASK ANALYSIS:

1. lie flat on mat in supine position
2. lift head 1" off mat
3. return head to mat
4. repeat, increasing height head is lifted in 1" increments and extend time that position is sustained over successive sessions



HEAD CONTROL

STABILIZES HEAD ON NECK

PREREQUISITE SKILLS: relaxes, lifts and stabilizes head

RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance, shaping

RELEVANT ABSTRACTS: Corvallis, Handling the Young C.P. Child at Home, Marshalltown Project, Portage Project, Project Memphis, Teaching Resource Curriculum

TASK ANALYSIS:

1. lie in prone position
2. lift head off mat
3. move head to right
4. move head to left
5. return head to mat
6. in successive sessions, increase the distance head is turned until student moves head 45° in both directions

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HEAD CONTROL

STABILIZES HEAD IN SITTING

PREREQUISITE SKILLS: relaxes, sits with support

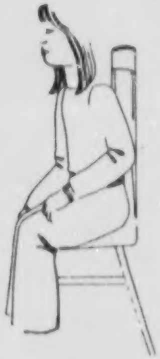
RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance,

AVAILABLE ADPATIVE EQUIPMENT: cervical collar, head control system, sling head support, lateral head support

RELEVANT ABSTRACTS: Corvallis, Handling the Young C.P. Child at Home, Marshalltown Project, Portage Project, Project Memphis, Teaching Resource Curriculum

TASK ANALYSIS:

1. sit with body erect
2. center head so that chin is in vertical alignment with body
3. sustain position, stabilizing head for 5 seconds
4. increase time head is stabilized in increments of 5 seconds in successive sessions



HEAD CONTROL

STABILIZES HEAD WHEN BODY IS TILTED

PREREQUISITE SKILLS: relaxes, sits with support, stabilizes head

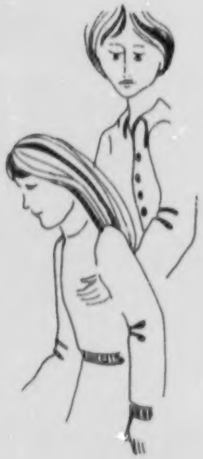
RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

AVAILABLE ADAPTIVE EQUIPMENT: cervical collar

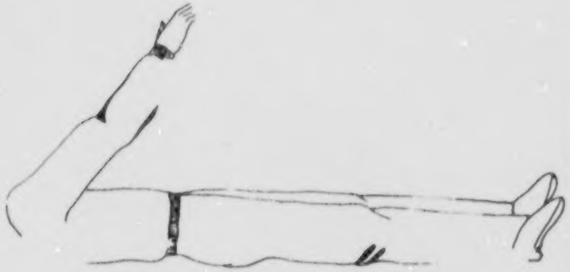
RELEVANT ABSTRACTS: Corvallis, Handling the Young C.P. Child at Home, Marshalltown Project, Portage Project, Project Memphis, Teaching Resource Curriculum

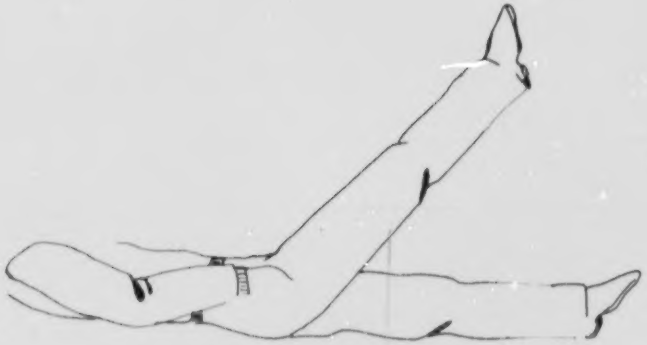
TASK ANALYSIS:

1. sit with head centered between shoulders
2. move upper torso 10° to right side keeping chin in vertical alignment with upper torso
3. sustain position for 10 seconds
4. move upper torso back to erect position
5. move upper torso 10° to left side keeping chin in vertical alignment with upper torso
6. sustain position for 10 seconds
7. move upper torso back to erect position
8. move upper torso forward 10° forward keeping chin in vertical alignment with body
9. sustain position for 10 seconds
10. move upper torso back to erect position
11. move upper torso backward keeping chin in vertical alignment with body
12. sustain position for 10 seconds
13. move upper torso back to erect position



POSTURE





POSTURE-PRONE/SUPINE

FLEXES ARMS/LEGS

PREREQUISITE SKILLS: relaxes, lifts arms and legs

RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

RELEVANT ABSTRACTS: Portage Project, A Motor Training Program for the Developmentally Young

TASK ANALYSIS:

1. lie in supine position , arms at sides
2. raise arm at shoulder straight up until it is perpendicular to floor
3. return arm to floor
4. repeat steps 5 times for both arms
5. raise leg at thigh straight up until it is perpendicular to floor
6. return leg to floor
7. repeat steps 5 times for each leg

POSTURE-PRONE/SUPINE

FLEXES ELBOW/KNEES

PREREQUISITE SKILLS: relaxes, lifts arms and legs

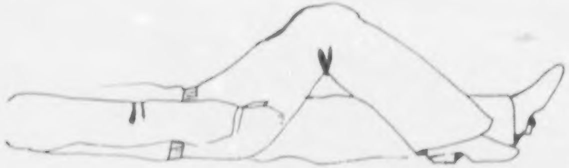
RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

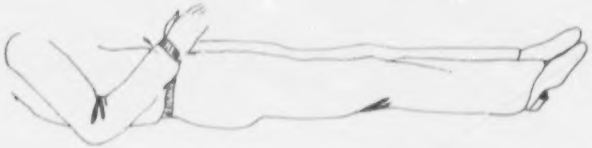
AVAILABLE ADAPTIVE EQUIPMENT: genu recurvatum support

RELEVANT ABSTRACTS: A Motor Training Program for the Developmentally Young, Portage Project

TASK ANALYSIS:

1. lie in supine position, arms at sides
2. bend arm at elbow until forearm is at a 90° angle with upper arm
3. repeat 5 times
4. bend knee until shin is perpendicular to floor
5. repeat 5 times





POSTURE-PRONE/SUPINE

SUPPORTS SELF ON FOREARMS

PREREQUISITE SKILLS: relaxes, raises head, flexes e

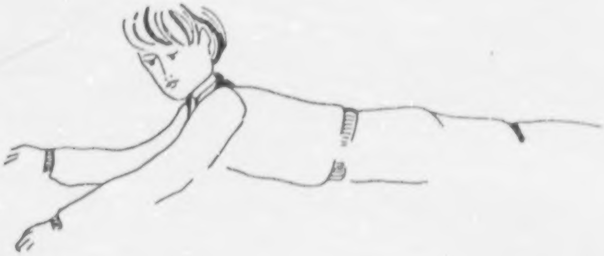
RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

AVAILABLE ADAPTIVE EQUIPMENT: bolsters, wedges

RELEVANT ABSTRACTS: A Motor Training Program for the Developmentally Young, Portage Project

TASK ANALYSIS:

1. lie in prone position, arms at sides
2. bend alternate arm, bringing forearm forward until hand is aligned with chin
3. rest forearm on ground
4. bend dominant arm, bringing forearm forward until hand is aligned with chin
5. rest forearm on ground
6. push upwards with forearms, lifting head off mat, bearing weight on forearms
7. sustain position for 10 seconds



POSTURE/SITTING

PULLS SELF TO SITTING

PREREQUISITE SKILLS: flexes and extends arms, sits with support

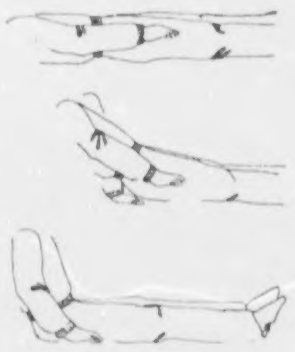
RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: achiever seat, mancino learning center, body harness, contourpedic seat, control jacket, floor sitter, growth guidance chair, relaxation chair

RELEVANT ABSTRACTS: Corvallis

TASK ANALYSIS:

1. lie in supine position, arms at sides
2. raise head at neck
3. sit up, pushing off with elbows, forearms, and hands
4. stabilize torso, bearing weight on hands and bottom
5. sustain position for 10 seconds



POSTURE/SITTING

RAISES SELF TO SITTING

PREREQUISITE SKILLS: flexes and extends arms, sits with support bears weight on all fours

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: achiever seat, mancino learning center, body harness, contourpedic seat, control jacket, floor sitter, growth guidance chair, relaxation chair

RELEVANT ABSTRACTS: Corvallis

TASK ANALYSIS:

1. lie in prone position, arms at sides
2. bring both hands from sides of body to parallel position at sides of head, palms resting flat
3. extend arms, raising upper torso
4. push backwards with arms, flexing the hips so that knees are bent, shins flat on floor
5. move hands back under shoulders
6. flex hips back, resting bottom on lower part of legs
7. push with dominant hand, rolling to floor
8. extend legs out straight
9. place hands in lap

POSTURE-STANDING/SQUATTING

STANDS (HOLDING ON) FROM SITTING

PREREQUISITE SKILLS: stands with support, pulls to sitting

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: prone board, prone stander, stand aid, standing stabilizer, canes crutches, walkers, parallel bars

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project

TASK ANALYSIS:

(student sits with grab bar in front of him)

1. grasp bar with both hands
2. lean torso forward towards bar
3. shift weight bearing to hands
4. push buttocks up off chair while pulling up with arms
5. transfer weight to feet
6. continue to rise, straightening legs
7. stabilize body in an erect position
8. sustain position for 30 seconds

POSTURE-STANDING/SQUATTING

KNEELS FROM PRONE POSITION

PREREQUISITE SKILLS: supports self on forearms, bears weight on extended arms, bears weight on knees

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: scooter board

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project

TASK ANALYSIS:

1. lie in prone position, arms at sides
2. bring both hands from sides of body to parallel position at sides of head, palms resting flat
3. extend arms, raising upper torso
4. push backwards with arms, flexing the hips so that knees are bent, shins flat on floor
5. push off with hands, rolling trunk back towards knees
6. bear weight on knees, upper torso erect

POSTURE-STANDING/SQUATTING

SQUATS FROM PRONE POSITION

PREREQUISITE SKILLS: supports self on forearms, bears weight on knees, kneels

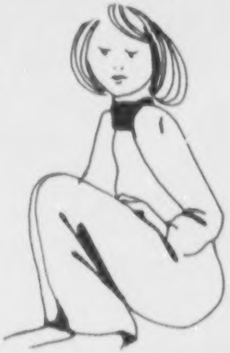
RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: rocking board

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project

TASK ANALYSIS:

1. lie in prone position, arms at sides
2. bring both hands from sides of body to parallel position at sides of head, palms resting flat
3. extend arms, raising upper torso
4. push backwards with arms flexing the hips so that knees are bent, shins flat on floor
5. slide hands back, assuming appropriate crawling position
6. bend dominant knee forward and up, sliding shin along floor
7. bend alternate knee forward and up, sliding shin along floor
8. push back with hands, rolling torso to erect position, weight-bearing on balls of feet
9. place hands at sides
10. rest bottom on heels



POSTURE-STANDING/SQUATTING

STANDS FROM PRONE POSITION

PREREQUISITE SKILLS: kneels, squats, stands holding on

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: prone stander, standing stabilizer, stand aid, prone board, canes, crutches, parallel bars

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project

TASK ANALYSIS:

1. lie in prone position, arms at sides
2. bring both hands from sides of body to parallel position at sides of head, palms resting flat
3. extend arms, raising upper torso
4. push backwards with arms, flexing the hips so that knees are bent, shins flat on floor
5. slide alternate hand back, flat on floor under shoulder
6. slide dominant hand back, flat on floor under shoulder
7. bend dominant knee forward and up, sliding shin along
8. place ball of foot on floor
9. push up with hands and dominant foot, raising body up off floor
10. move torso back towards erect position
11. slide alternate foot forward along floor
12. place alternate foot flat on floor
13. stand in correct weight-bearing position

POSTURE-STANDING/SQUATTING

STANDS FROM SUPINE POSITION

PREREQUISITE SKILLS: kneels, squats, stands holding on

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: standing stabilizer, stand aid, prone board, prone stander, canes, crutches, walkers, parallel bars, grab bars

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project

TASK ANALYSIS:

1. lie in supine position, arms at sides
2. sit up, pushing off with elbows, forearms, and hands
3. place alternate hand flat on floor away from side
4. roll lower body (from bottom) to alternate side, bearing weight on hand
5. place dominant hand flat on floor in front of knees
6. push up with hands, raising bottom off floor
7. roll to knees, bearing weight on all fours
8. move hands and knees to appropriate crawling position
9. bend dominant knee forward and up, sliding shin along floor
10. place ball of foot on floor
11. push up with hands and dominant foot, raising body up off floor
12. move torso back towards erect position
13. slide alternate foot forward along floor
14. place alternate foot flat on floor
15. stand in correct weight-bearing position

POSTURE-STANDING/SQUATTING

BENDS AT WAIST TO PICK UP OBJECTS

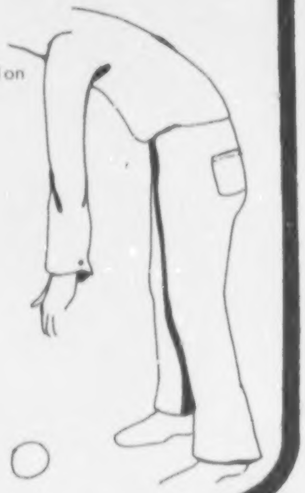
PREREQUISITE SKILLS: stands without support, bends at waist, squats from standing

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Portage Project

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. bend at waist 20^0, keeping torso straight
3. flex knees
4. extend arms perpendicular to ground
5. continue bending at waist until hands reach object
6. grasp object
7. pick up object
8. bend up from waist, returning to erect position



POSTURE-STANDING/SQUATTING

SQUATS FROM STANDING

PREREQUISITE SKILLS: stands without support, stoops and recovers

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Portage Project

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. bend knees fully, lowering body, heels slightly off floor
3. rest bottom on heels
4. place hands on thighs
5. sustain position for 10 seconds

POSTURE-STANDING/SQUATTING

KNEELS FROM STANDING

PREREQUISITE SKILLS: stands without support, squats, bears weight on knees

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Portage Project

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. bend knees fully, lowering body, heels slightly off floor
3. place hands on floor at sides of feet
4. slide dominant foot backwards until knee is directly under trunk, bearing weight on hands and alternate foot
5. place dominant knee on floor
6. slide alternate foot backwards until knee is directly under trunk
7. place alternate knee on floor
8. raise trunk to an erect position, perpendicular to floor
9. move hands to sides
10. sustain position for 10 seconds

POSTURE-STANDING/SQUATTING

RISES TO FEET WITHOUT USING HANDS

PREREQUISITE SKILLS: kneels, squats, stands without support

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Portage Project

TASK ANALYSIS:

1. begin in squatting position (see sequence Squats)
2. place weight on balls of feet
3. push up from balls of feet, straightening legs, leaning torso forward
4. extend legs completely, feet flat on floor
5. bring arms to rest at sides
6. stand in correct weight-bearing position

POSTURE-STANDING/SQUATTING

STANDS ON TIPTOES

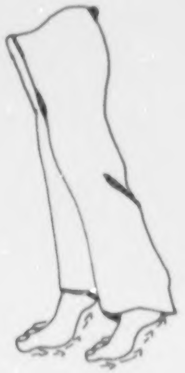
PREREQUISITE SKILLS: stands without support

RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance, modeling

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Portage Project

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. lean forward
3. raise heels off floor, bearing weight on balls of feet
4. raise balls of feet off floor, bearing weight on toes
5. sustain position for 5 seconds



LIMB CONTROL

LIMB CONTROL-ARMS/HANDS

FLEXES ARMS AT ELBOWS

PREREQUISITE SKILLS: relaxes, lifts arms

RECOMMENDED INSTRUCTIONAL APPROACH: shaping

RELEVANT ABSTRACTS: Project Memphis

TASK ANALYSIS:

1. lie in supine position, arms at sides
2. raise arm at elbow straight up until it is perpendicular to mat
3. return arm to floor
4. repeat steps #2-3 ten times for each arm

LIMB CONTROL-ARMS/HANDS

ROTATES ARMS AT SHOULDERS

PREREQUISITE SKILLS: relaxes, lifts arms

RECOMMENDED INSTRUCTIONAL APPROACH: shaping

AVAILABLE ADAPTIVE EQUIPMENT: shoulder wheel

RELEVANT ABSTRACTS: Project Memphis

TASK ANALYSIS:

1. lie in supine position, arms at sides
2. raise arm straight up from shoulder, keeping elbow straight
3. when arm is perpendicular to body, begin rotating it back overhead
4. continue moving arm backward until back of hand touches mat
5. bring arm up from mat, keeping elbow straight
6. when arm is perpendicular to body, begin bringing it down towards mat
7. bring palm to rest flat on mat
8. repeat for both arms, ten times

LIMB CONTROL-ARMS/HANDS

REACHES FOR OBJECTS WITH BOTH HANDS (SUPINE)

PREREQUISITE SKILLS: flexes and extends arms, closes on dangling object

RECOMMENDED INSTRUCTIONAL APPROACH: shaping

RELEVANT ABSTRACTS: Corvallis

TASK ANALYSIS:

1. lie in supine position, arms at sides
2. make eye-contact with object
3. raise forearms off mat
4. raise arms off mat from shoulders
5. extend arms from shoulders upward until they are perpendicular to body
6. grasp object

LIMB CONTROL-ARMS/HANDS

REACHES FOR OBJECTS, WEIGHT ON FOREARMS (PRONE)

PREREQUISITE SKILLS: flexes and extends arms, bears weight on forearms

RECOMMENDED INSTRUCTIONAL APPROACH: shaping

RELEVANT ABSTRACTS: Marshalltown Project

TASK ANALYSIS:

1. lie flat on stomach, arms at sides
2. bend elbows, bringing forearms perpendicular to body
3. move hands forward until palms rest flat at sides of head
4. raise head off mat
5. raise shoulders off mat, bearing weight on forearms
6. extend forearms forward
7. bring hands to object
8. grasp object

LIMB CONTROL-ARMS/HANDS

PUSHES OBJECT AWAY FROM SELF WITH HANDS (PRONE)

PREREQUISITE SKILLS: extends arms

RECOMMENDED INSTRUCTIONAL APPROACH: shaping

RELEVANT ABSTRACTS: Corvallis

TASK ANALYSIS:

1. lie in prone position, arms at sides
2. flex elbow, bringing hands to object
3. place base of palm against object, fingers resting on top
4. move arm forward, sliding object along surface away from body
5. bring hands to rest

LIMB CONTROL-ARMS/HANDS

PULLS OBJECT TOWARDS SELF WITH HANDS

PREREQUISITE SKILLS: grasps, flexes and extends arms

RECOMMENDED INSTRUCTIONAL APPROACH: shaping

RELEVANT ABSTRACTS: Corvallis

TASK ANALYSIS:

1. lie in prone position, arms at sides
2. extend arm forward from shoulder towards object
3. rest palm on object
4. grasp object
5. move arm back towards body, keeping hand firmly around object

LIMB CONTROL-ARM/HANDS

ROLLS CLAY WITH ONE HAND

PREREQUISITE SKILLS: extends fingers, flexes elbows

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: Thera-plast

RELEVANT ABSTRACTS: Corvallis

TASK ANALYSIS:

(begin using 3" ball of clay placed on table)

1. place fingers over ball of clay
2. extend fingers
3. push hand forward across clay until ball reaches base of palm
4. pull hand back across clay until ball reaches tips of fingers
5. repeat steps #5-6 ten times

LIMB CONTROL-ARM/HANDS

THROWS BALL UNDERHAND

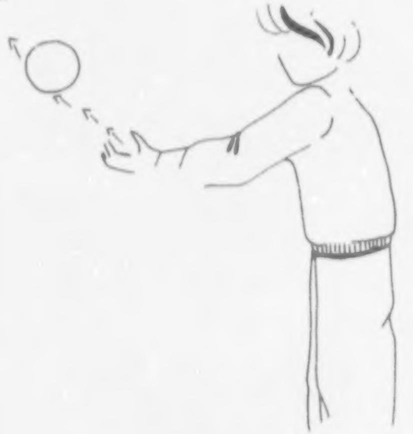
PREREQUISITE SKILLS: grasps, flexes and extends arms, rotates arms at shoulders

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

RELEVANT ABSTRACTS: Corvallis, Gross Motor Training Program, Illinois Program, Marsnalltown Project, Portage Project, Project Memphis

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. hold ball in dominant hand
3. bend forward at waist
4. swing arm backward
5. swing arm forward
6. release ball at point where hand is waist high
7. return to relaxed position



LIMB CONTROL-ARMS/HANDS

THROWS BALL OVERHEAD

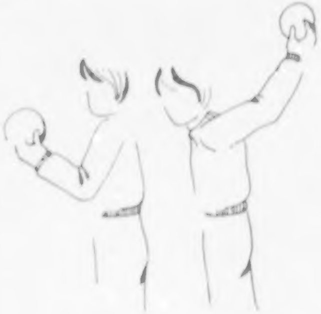
PREREQUISITE SKILLS: grasps, flexes and extends arms, rotates arms at shoulders

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

RELEVANT ABSTRACTS: Corvallis, Gross Motor Training Program, Illinois Program, Marshalltown Project, Portage Project, Project Memphis

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. place hands on sides of ball (8" diameter) with thumbs under ball
3. raise arms straight up, so that ball is over head
4. bend elbows back, dropping forearms, so that ball is behind head
5. bring forearms forward sharply
6. at point when ball is straight overhead, arms straight, continue moving arms downward
7. release ball at eye level
8. follow through forward motion with body
9. return to erect position



LIMB CONTROL-ARMS/HANDS

THROWS BALL WITH TWO HANDS

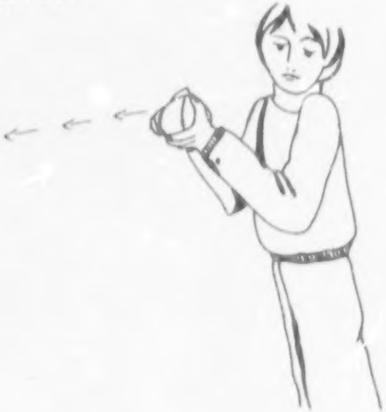
PREREQUISITE SKILLS: grasps, flexes and extends arms

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

RELEVANT ABSTRACTS: Corvallis, Gross Motor Training Program, Illinois Program, Marshalltown Project, Portage Project, Project Memphis

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. place hands on sides of ball (8" diameter) thumbs pressed against back of ball, fingers extended around sides
3. bend elbows, bringing ball to chest
4. thrust arms straight forward, extending arms
5. release ball at point where arms are fully extended
6. follow through forward motion with body
7. return to relaxed position



LIMB CONTROL-ARMS/HANDS

USES SHOULDER AND ELBOW IN THROWING

PREREQUISITE SKILLS: grasps, rotates arm at shoulder, flexes and extends arm, has trunk rotation

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

RELEVANT ABSTRACTS: Corvallis, Gross Motor Training Program, Illinois Program, Marshalltown Project, Portage Project, Project Memphis

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. hold ball (2" diameter) in dominant hand
3. move dominant foot back 6"
4. move dominant hand upward so that ball is in front of same shoulder, elbow bent
5. rotate head and trunk in same direction
6. lead with hand coming forward at shoulder height, straightening arm, rotating trunk and head forward
7. release ball at point where arm is fully extended
8. follow through forward motion with body
9. return to relaxed position

LIMB CONTROL-ARMS/HANDS

CATCHES BOUNCED BALL

PREREQUISITE SKILLS: grasps, has eye-hand coordination, follows moving object

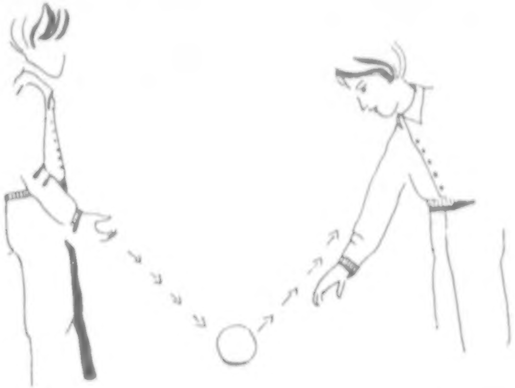
RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: pitch-back

RELEVANT ABSTRACTS: Corvallis, Gross Motor Training Program, Illinois Program, Marshalltown Project, Portage Project

TASK ANALYSIS:

1. stand with feet apart, hands at sides
2. bend elbows, raising hands to chest level
3. hold hands 12" apart, fingers extended
4. make eye-contact with ball
5. when ball is bounced and reaches chest level, bring both hands together firmly around ball
6. bring hands to rest with ball



LIMB CONTROL/LEGS

FLEXES LEG AT KNEE

PREREQUISITE SKILLS: relaxes, lifts leg

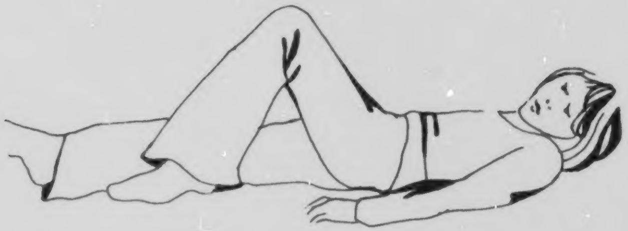
RECOMMENDED INSTRUCTIONAL APPROACH: shaping

AVAILABLE ADAPTIVE EQUIPMENT: genu recurvatum support

RELEVANT ABSTRACTS: Illinois Program, Marshalltown Project, Portage Project

TASK ANALYSIS:

1. lie on side, legs extended
2. bend knee, moving heel towards buttocks
3. extend knee, moving heel away from buttocks
4. bring leg to rest
5. repeat 10 times for each leg



LIMB CONTROL/LEGS

KICKS BALL

PREREQUISITE SKILLS: stands unsupported, has eye-foot coordination

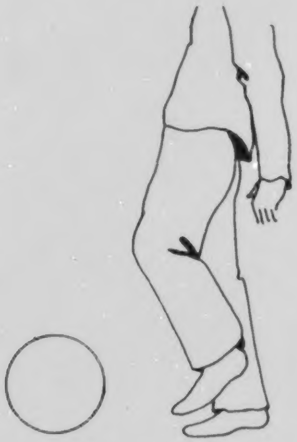
RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

RELEVANT ABSTRACTS: Illinois Program, Marshalltown Project, Portage Project

TASK ANALYSIS:

(place 8" diameter ball 1" from student's foot)

1. stand in correct weight-bearing position
2. look at ball
3. bend knee of dominant foot, pulling leg back, foot off floor
4. bring foot forward, straightening knee, making contact with ball
5. follow through with toe pointing upward
6. bring leg to rest



LOCOMOTION

LOCOMOTION/ROLLING

ROLLS PART WAY TOWARDS LEFT (IN PRONE)

PREREQUISITE SKILLS: turns head to either side, flexes elbows and knees, rotates trunk

RECOMMENDED INSTRUCTIONAL APPROACH: shaping

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Portage Project, Project Memphis

TASK ANALYSIS:

1. lie in prone position, arms at sides
2. turn head to right side
3. place right palm flat on floor with elbow bent
4. bend right hip and knee
5. push with right hand and leg
6. roll to left side

LOCOMOTION/ROLLING

ROLLS PART WAY TOWARDS RIGHT (IN PRONE)

PREREQUISITE SKILLS: turns head to either side, flexes elbows and knees, rotates trunk

RECOMMENDED INSTRUCTIONAL APPROACH: shaping

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Portage Project, Project Memphis

TASK ANALYSIS:

1. lie in prone position, arms at sides
2. turn head to left side
3. place left palm flat on floor with elbow bent
4. bend left hip and knee
5. push with left hand and leg
6. roll to right side

LOCOMOTION/ROLLING

ROLLS PART WAY TOWARDS LEFT
(IN SUPINE)

PREREQUISITE SKILLS: turns head to either side, flexes elbows and knees, rotates trunk

RECOMMENDED INSTRUCTIONAL APPROACH: shaping

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Portage Project, Project Memphis

TASK ANALYSIS:

1. lie in supine position, arms at sides
2. turn head to left side
3. move right arm across chest towards opposite shoulder
4. move right leg across left leg with right knee flexed
5. push with right leg
6. roll to left side

LOCOMOTION/ROLLING

ROLLS PART WAY TOWARDS RIGHT
(IN SUPINE)

PREREQUISITE SKILLS: turns head to either side, flexes elbows and knees, rotates trunk

RECOMMENDED INSTRUCTIONAL APPROACH: shaping

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Protage Project, Project Memphis

TASK ANALYSIS:

1. lie in supine position, arms at sides
2. turn head to right side
3. move left arm across chest towards opposite shoulder
4. move left leg across right leg with left knee flexed
5. push with left leg
6. roll to right side

LOCOMOTION/ROLLING

ROLLS FROM STOMACH TO BACK

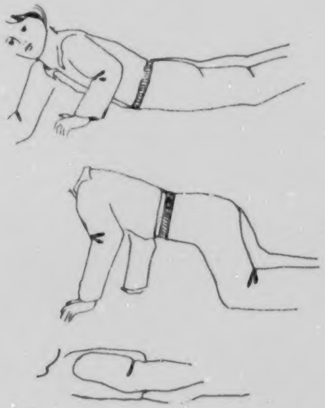
PREREQUISITE SKILLS: turns head to either side, flexes elbows and knees, rotates trunk

RECOMMENDED INSTRUCTIONAL APPROACH: shaping

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Portage Project, Project Memphis

TASK ANALYSIS:

1. lie in prone position, arms at sides
2. turn head to left side
3. place left palm flat on floor with elbow bent
4. bend left hip and knee
5. push with left hand and leg
6. roll to back



LOCOMOTION/ROLLING

ROLLS FROM BACK TO STOMACH

PREREQUISITE SKILLS: turns head to either side, flexes elbows and knees, rotates trunk

RECOMMENDED INSTRUCTIONAL APPROACH: shaping

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Portage Project, Project Memphis

TASK ANALYSIS:

1. lie in supine positon, arms at sides
2. turn head to left side
3. move right arm across chest towards opposite shoulder
4. move right leg across left leg with right knee flexed
5. push with right leg
6. roll to stomach

LOCOMOTION-CRAWLING/CREEPING

CREEPS ON TUMMY
(STOMACH TOUCHING FLOOR)

PREREQUISITE SKILLS: lifts head, supports self on forearms, transfers weight

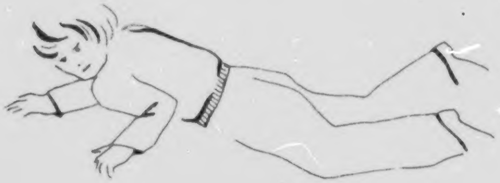
RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: crawler, scooter board

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Portage Project, Read Project

TASK ANALYSIS:

1. lie in prone position, arms at sides
2. bring hands to side of head, elbows bent, palms flat on floor
3. raise upper torso off mat, bearing weight on elbows
4. bring alternate arm forward
5. push with dominant leg along mat
6. push with dominant arm in sliding motion ahead of alternate
7. push with alternate leg ahead of dominant leg
8. bring dominant arm forward
9. push with alternate arm in sliding motion ahead of dominant
10. repeat steps #4-9 for a distance of 5 feet



LOCOMOTION-CRAWLING/CREEPING

CRAWLS ON ALL FOURS
(BACKWARDS)

PREREQUISITE SKILLS: lifts head, supports self on forearms, bears weight on extended arms with palms flat, bears weight on knees, weight shifting on hands and knees

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: crawler, scooter board, developmental suspension crawler

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Portage Project Read Project

TASK ANALYSIS:

1. lie in prone position, arms at sides
2. bring both hands from side of body to parallel position at side of head, palms resting flat
3. extend arms, raising upper torso
4. push backwards with arms, flexing the hips so that knees are bent, shins flat on mat
5. move alternate knee behind dominant, shifting weight
6. move dominant hand behind alternate, shifting weight
7. move dominant knee behind alternate , shifting weight
8. move alternate hand behind dominant , shifting weight
9. repeat steps #4-9 for a distance of 5 feet

LOCOMOTION-CRAWLING/CREEPING

CRAWLS ON ALL FOURS
(FORWARD)

PREREQUISITE SKILLS: lifts head, supports self on forearms, bears weight on extended arms with palms flat, bears weight on knees, weight shifting on hands and knees

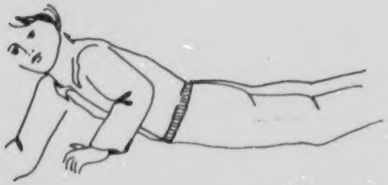
RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

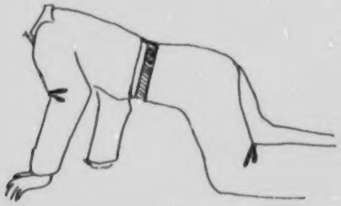
AVAILABLE ADAPTIVE EQUIPMENT: crawler, scooter board, developmental suspension crawler

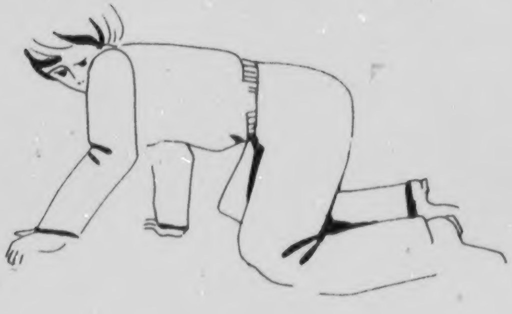
RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Portage Project, Read Project

TASK ANALYSIS:

1. lie in prone position, arms at sides
2. bring both hands from side of body to parallel position at side of head, palms resting flat in forward position
3. extend arms, raising upper torso
4. push backwards with arms, flexing hips so that knees are bent, shins flat on mat
5. move alternate hand ahead of dominant, shifting weight
6. move dominant knee ahead of alternate, shifting weight
7. move dominant hand ahead of alternate, shifting weight
8. move alternate knee ahead of dominant, shifting weight
9. repeat steps #5-8 for a distance of 10 feet







LOCOMOTION-WALKING/CLIMBING

CRUISES

PREREQUISITE SKILLS: stands with support, transfers weight

RECOMMENDED INSTRUCTIONAL APPROACH: shaping

AVAILABLE ADAPTIVE EQUIPMENT: parallel bars, walkers

RELEVANT ABSTRACTS: Corvallis, Illinois Program, Marshalltown Project, Project Memphis, Read Project, Teaching Resource Curriculum

TASK ANALYSIS:

1. stand holding onto support
2. move hand along support
3. move foot sideways
4. move opposite foot towards other foot
5. move hand along support
6. repeat steps #2-5

LOCOMOTION-WALKING/CLIMBING

WALKS WITH SUPPORT

PREREQUISITE SKILLS: stands with support, transfers weight

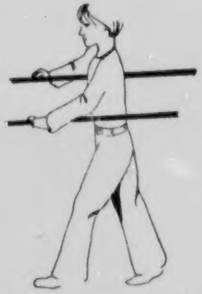
RECOMMENDED INSTRUCTIONAL APPROACH: shaping

AVAILABLE ADAPTIVE EQUIPMENT: canes, crutches, walkers, parallel bars, stride guide, safety walking belt, treadmill, wheelchairs

RELEVANT ABSTRACTS: Corvallis, Illinois Program, Marshalltown Project, Portage Project, Project Memphis, Teaching Resource Curriculum

TASK ANALYSIS:

1. stand with feet flat on floor hands on parallel bars
2. move alternate foot forward
3. slide dominant hand forward along bar
4. as alternate foot touches ground, begin lifting dominant foot off ground
5. move dominant foot ahead and away from alternate foot
6. move alternate hand forward along bar
7. as dominant foot touches ground, begin lifting alternate foot off ground
8. move alternate foot ahead and away from dominant foot
9. repeat sequence steps #3-8 for length of bars



LOCOMOTION-WALKING/CLIMBING

WALKS WITH ARMS EXTENDED

PREREQUISITE SKILLS: stands without support, has trunk rotation, transfers weight

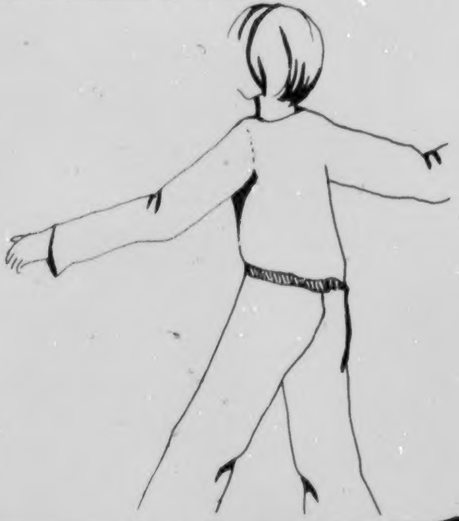
RECOMMENDED INSTRUCTIONAL APPROACH: shaping

AVAILABLE ADAPTIVE EQUIPMENT: canes crutches, walkers, parallel bars. safety walking belt, wheelchairs

RELEVANT ABSTRACTS: Corvallis, Illinois Program, Marshalltown Project, Portage Project, Project Memphis, Read Project, Teaching Resource Curriculum

TASK ANALYSIS:

1. stand with feet providing a broad base of support, arms extended
2. move alternate foot forward, away from dominant foot, shifting weight to that side as foot touches ground
3. move dominant foot ahead and away from alternate foot, shifting weight to dominant side as foot touches ground
4. repeat sequence for a distance of 10 feet



LOCOMOTION-WALKING/CLIMBING

WALKS WITH ALTERNATING ARMS AND LEGS

PREREQUISITE SKILLS: stands without support, has altenate arm swing, has trunk rotation, transfers weight

RECOMMENDED INSTRUCTIONAL APPROACH: shaping, modeling

AVAILABLE ADAPTIVE EQUIPMENT: canes, crutches, walkers, parallel bars, safety walking belt, stride guide, wheelchairs,

RELEVANT ABSTRACTS: Corvallis, Illinois Program, Marshalltown Project, Portage Project, Project Memphis, Read Project, Teaching Resource Curriculum

TASK ANALYSIS:

1. stand in correct weight-bearing position, arms at sides
2. move alternate foot forward, heel touching ground first, then ball of foot
3. simultaneously swing dominant arm forward
4. as ball of alternate foot touches ground, begin lifting heel of dominant foot off ground
5. move dominant foot ahead and away from alternate foot, heel touching ground first, then ball of foot
6. simultaneously swing alternate arm forward
7. as ball of dominant foot touches ground, begin lifting heel of altenate foot off ground
8. move alternate foot ahead and away from alternate foot, heel touching ground first, then ball of foot
9. repeat sequence steps #3-8 for a distance of 20 feet

LOCOMOTION-WALKING/CLIMBING

WALKS ON LINE

PREREQUISITE SKILLS: has eye-foot coordination, walks independently

RECOMMENDED INSTRUCTIONAL APPROACH: shaping

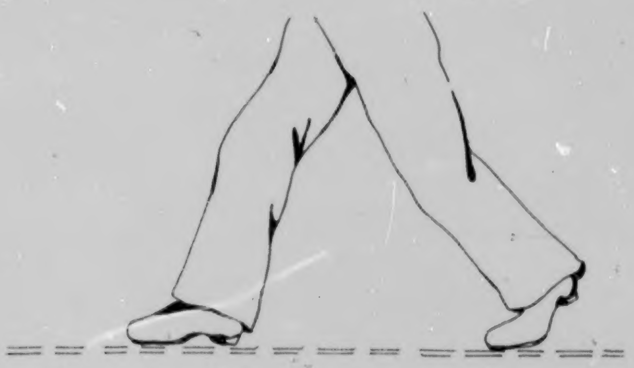
AVAILABLE ADAPTIVE EQUIPMENT: canes, crutches, walkers, stride guide, safety walking belt

RELEVANT ABSTRACTS: Corvallis, Illinois Program, Marshalltown Project, Portage Project, Project Memphis, Read Project, Teaching Resource Curriculum

TASK ANALYSIS:

(begin with a 12" wide line taped on floor)

1. stand at beginning of line in correct weight-bearing position
2. move alternate foot ahead and away from dominant foot, keeping foot within boundaries of line
3. move dominant foot ahead and away from alternate foot, keeping foot within boundaries of line
4. repeat steps #2-3 for a distance of 10 feet
5. (when there is no deviation in foot placement, begin reducing width of line in 1" increments)



LOCOMOTION-WALKING CLIMBING

WALKS UPSTAIRS/WITHOUT ALTERNATING

PREREQUISITE SKILLS: flexes knees, stands with/without support, transfers weight, has trunk rotation

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: exercise stairs, safety walking belt, stairclimbing walker, stair lift

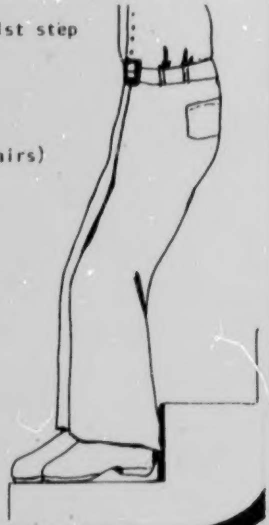
RELEVANT ABSTRACTS: Corvallis, Illinois Program, Marshalltown Project, Portage Project, Project Memphis, Read Project, Teaching Resource Curriculum

TASK ANALYSIS:

1. begin at foot of stairs, body in correct weight-bearing position
2. place hand on handrail
3. lift alternate foot, flexing knee, above 1st step
4. place alternate foot on 1st step
5. push off dominant foot, shifting weight to alternate side
6. lift dominant foot, flexing knee, above 1st step
7. place dominant foot on 1st step
8. move hand up handrail

(repeat sequence steps #2-8 for flight of stairs)

9. lift alternate foot above landing
10. place alternate foot on landing
11. lift dominant foot above landing
12. place dominant foot on landing
13. release handrail
14. return to erect position



LOCOMOTION-WALKING/CLIMBING

WALKS UPSTAIRS/ALTERNATING FEET

PREREQUISITE SKILLS: stands with/without support, flexes knees, transfers weight, has trunk rotation

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: exercise stairs, safety walking belt stairclimbing walker, stair lift

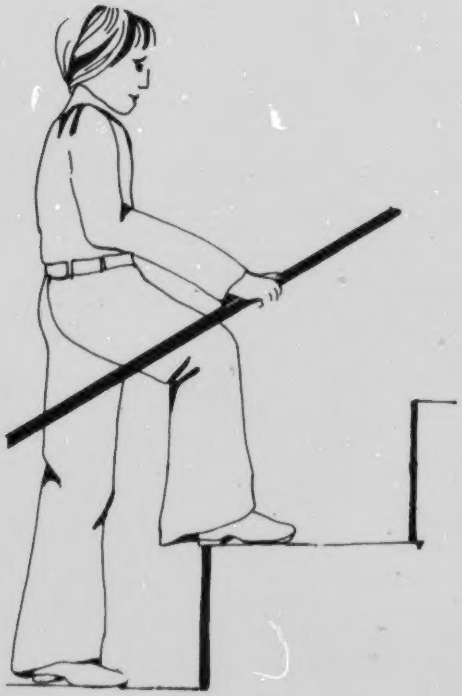
RELEVANT ABSTRACTS: Corvallis, Illinois Program, Marshalltown Project, Portage Project, Project Memphis, Read Project, Teaching Resources Curriculum

TASK ANALYSIS:

1. begin at foot of stairs, body in correct weight-bearing position
2. place hand on handrail
3. lift alterante foot above 1st step
4. place alternate foot on 1st step
5. push off dominant foot, shifting weight to alternate foot
6. lift dominant foot above 2nd step
7. place dominant foot on 2nd step
8. move hand up handrail

(repeat sequence steps 3-8 for flight of stairs)

9. push off alternate foot, shifting weight
10. lift alternate foot above landing
11. place alternate foot on landing
12. push off dominant foot, shifting weight to alternate side
13. lift dominant foot above landing
14. place dominant foot on landing
15. release handrail
16. return to erect position



LOCOMOTION-WALKING/CLIMBING

WALKS DOWNSTAIRS/WITHOUT ALTERNATING

PREREQUISITE SKILLS, flexes knees, stands with/without support, transfers weight, has trunk rotation

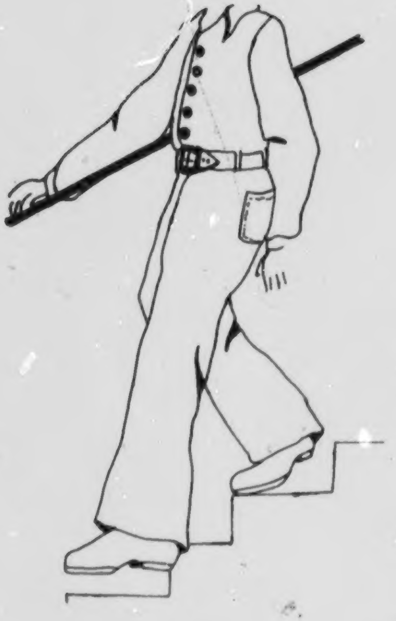
RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: exercise stairs, safety walking belt, stairclimbing walker, stair lift

RELEVANT ABSTRACTS: Corvallis, Illinois Program, Marshalltown Project, Project Memphis, Read Project, Teaching Resource Curriculum

TASK ANALYSIS:

1. begin at top of stairs, body in correct weight-bearing position
2. slide alternate foot forward on landing
3. bend dominant leg
4. lower alternate foot, placing it on 1st step
5. slide dominant foot forward
6. lower dominant foot, placing it on 1st step
7. slide alternate foot forward on 1st step
8. bend dominant leg
9. lower alternate foot, placing it on 2nd step
10. slide dominant foot forward
11. lower dominant foot, placing it on 2nd step
12. repeat sequence, steps #7-11 for flight of stairs



LOCOMOTION-WALKING/CLIMBING

WALKS DOWNSTAIRS/ALTERNATING FEET

PREREQUISITE SKILLS: flexes knees, stands with/without support, transfers weight, has trunk rotation

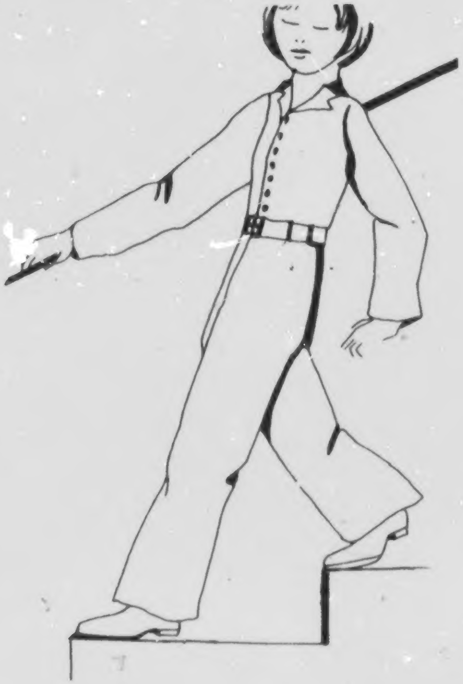
RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: exercise stairs, safety walking belt, stairclimbing walker, stair lift

RELEVANT ABSTRACTS: Corvallis, Illinois Program, Marshalltown Project, Project Memphis, Read Project, Teaching Resources Curriculum

TASK ANALYSIS:

1. begin at top of stairs, body in correct weight-bearing position
2. slide alternate foot forward on landing
3. bend dominant leg
4. lower alternate foot, placing it on 1st step
5. slide dominant foot forward
6. bend alternate leg
7. lower dominant foot to 2nd step
8. slide alternate foot forward
9. bend dominant leg
10. lower alternate foot, placing it on 3rd step
11. slide dominant foot forward
12. beind alternate leg
13. lower dominant foot to 4th step
14. repeat sequence, steps #2-13 for flight of stairs



CLIMBS ON OBJECT, ONE FOOT AT A TIME, HAND OVER HAND, ALTERNATING

PREREQUISITE SKILLS: stands with/without support, flexes elbows and knees, transfers weight, has trunk rotation

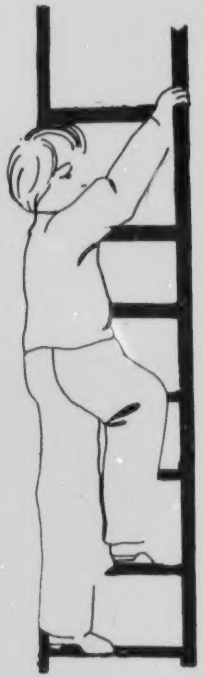
RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: balance and coordination equipment

RELEVANT ABSTRACTS: Corvallis, Illinois Program, Marshalltown Project, Portage Project, Project Memphis, Read Project, Teaching Resources Curriculum

TASK ANALYSIS:

1. begin in correct weight-bearing position at foot of ladder
2. extend left arm overhead
3. place left hand on ladder bar at that level
4. extend right arm overhead
5. place right hand on ladder bar next to left hand
6. bend right knee up
7. place right foot on first ladder bar
8. pull up with left arm, bending elbow
9. simultaneously push off with left foot, shifting weight to right foot
10. extend right leg fully
11. bend left knee up
12. place left foot on second ladder bar
13. extend right arm overhead
14. place right hand on bar at that level
15. pull up with right arm, bending elbow
16. simultaneously push off with right foot, shifting weight to left foot
17. repeat sequence



LOCOMOTION-WALKING/CLIMBING

GETS DOWN AGAIN AFTER CLIMBING ON OBJECTS

PREREQUISITE SKILLS: stands with/without support, flexes elbows and knees, transfers weight, has trunk rotation

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: balance and coordination equipment

RELEVANT ABSTRACTS: Corvallis, Illinois Program, Marshalltown Project, Portage Project, Project Memphis, Read Project, Teaching Resource Curriculum

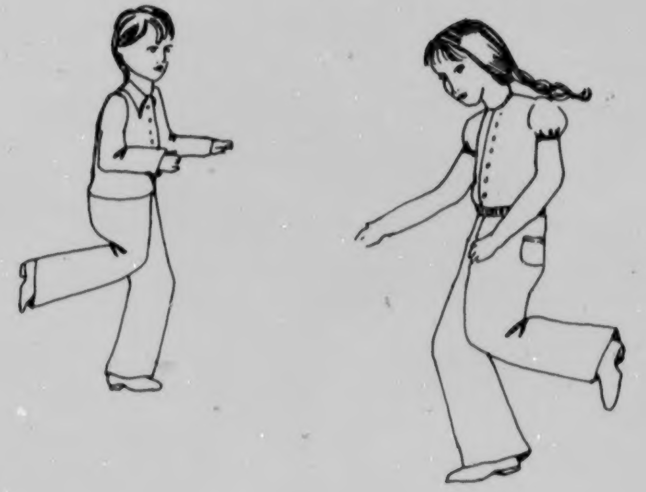
TASK ANALYSIS:

1. stand with both feet on 4th ladder bar, hands on bar at eye level
2. move alternate foot out from bar
3. lower alternate foot to 3rd bar, bending dominant leg
4. lower alternate hand on bar
5. place alternate foot on 3rd bar
6. move dominant foot out from bar
7. lower dominant foot to 2nd bar, bending alternate leg
8. lower dominant hand
9. place dominant foot on 2nd bar
10. move alternate foot out from 3rd bar
11. lower alternate foot to 1st bar, bending dominant leg
12. lower alternate hand on bar
13. place alternate foot on 1st bar
14. move dominant foot out from 2nd bar
15. lower dominant foot to floor, bending alternate leg
16. lower dominant hand on bar
17. place dominant foot on floor
18. move alternate foot out from 1st bar
19. lower alternate foot to floor
20. place alternate foot on floor
21. release bar

RUNNING

Running is the ability to rapidly move the feet forward in an alternating pattern so that both feet leave the ground for an instant in each step, keeping the body in an upright position.

Of primary importance in running is learning to bend the knees. The teacher can offer support activities such as stepping over obstacles which help the student to practice bending the knees. Initially, the obstacles can be low and the height gradually increased. Activities that involve jumping on one or both feet or marching, aid in developing this part of the running pattern. When teaching the skill itself, model the sequence for the student with emphasis on exaggerating the knee bending and arm thrusting. A safety walking belt can be used to help the student with balance and momentum. As proficiency is gained, obstacles can be set up and the student can learn to change directions and speed.



LOCOMOTION

STARTS AND STOPS RUNNING

PREREQUISITE SKILLS: walks without support, transfers weight, has trunk rotation, has alternating arm swing

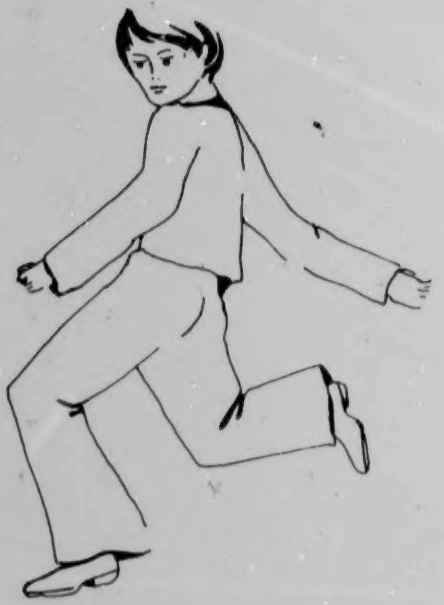
RECOMMENDED INSTRUCTIONAL APPROACH: shaping, modeling

AVAILABLE ADAPTIVE EQUIPMENT: safety walking belt

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Illinois Program, Portage Project

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. lean to left side of body
3. bend left knee up
4. move left foot ahead and away from right foot while swinging right arm across body
5. lean to right side of body
6. bend right leg up
7. move right foot ahead and away from left foot while swinging left arm across body
8. repeat sequence gaining momentum with each step
9. after a distance of 20 feet begin to decrease size of steps, slowing pace, until body comes to rest



LOCOMOTION

RIDES A SWING, PUMPING WITH LEGS

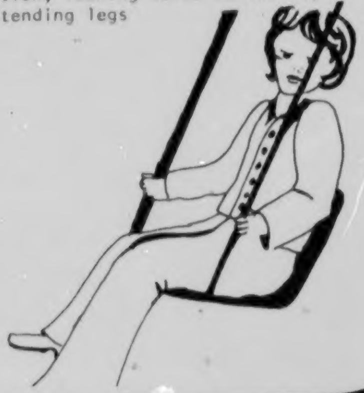
PREREQUISITE SKILLS: balances in sitting, flexes elbows and knees, grasps

RECOMMENDED INSTRUCTIONAL APPROACH: shaping, modeling

AVAILABLE ADAPTIVE EQUIPMENT: balance and coordination equipment

TASK ANALYSIS:

1. begin seated on swing, hands holding ropes at chest level, knees bent
2. pull ropes back, leaning torso forward
3. with balls of both feet, push against ground
4. extend arms fully, leaning torso back and legs out straight
5. hold position as swing moves forward
6. as swing reaches forward peak, lean torso forward
7. as swing moves backwards, bend knees so that feet are under seat
8. follow through forward motion, leaning torso backwards, straightening arms and extending legs
9. repeat steps #6-8



LOCOMOTION

MOVES A NON-PEDAL TRICYCLE

PREREQUISITE SKILLS: balances in sitting unsupported, flexes and extends knees, hips, and ankles

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

TASK ANALYSIS:

1. begin seated on tricycle, hands on handlebars, feet on floor
2. push off with dominant foot while moving alternate foot forward
3. keep both feet momentarily off the ground while gliding forward
4. place alternate foot on ground
5. push off with alternate foot while moving dominant foot forward
6. keep both feet momentarily off the ground while gliding forward
7. place dominant foot on ground
8. push off with dominant foot while moving alternate foot forward
9. keep both feet momentarily off the ground while gliding forward
10. repeat sequence for a distance of 20 feet

LOCOMOTION

PEDALS A TRICYCLE

PREREQUISITE SKILLS: balances in sitting unsupported, flexes and extends knees, hips, and ankles

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

TASK ANALYSIS:

1. begin seated on tricycle, hands on handle bars
2. place balls of feet on pedals
3. push forward on higher pedal until leg is extended
4. when pedal reaches furthest point, begin pushing with opposite foot
5. push forward with alternate foot until leg is extended
6. when pedal reaches furthest point, begin pushing with other foot
7. repeat for a distance of 20 feet

LOCOMOTION

TURNS WIDE CORNERS ON TRICYCLE

PREREQUISITE SKILLS: balances in sitting unsupported, flexes and extends knees, hips, and ankles

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

TASK ANALYSIS:

1. begin seated on tricycle, feet on pedals, hands holding hand grips
2. pedal tricycle (see sequence Pedals Tricycle)
3. for right turn: extend left arm forward, pushing left side o handle bar forward
4. hold position while turn is made
5. pull left hand back, bending elbow
6. return arms to position where tricycle is moving in a straight line
7. for left turn: extend right arm, pushing right side of handle bar forward
8. hold position while turn is made
9. pull right hand back, bending elbow
10. return arms to position where tricycle is moving in a straight line

JUMPING

Jumping is the ability to propel the body upwards, leaving the ground for a few seconds. Jumping from a height involves pushing off and landing on one or both feet.

To develop jumping skills, the teacher can initially provide experiences with bouncing tubes, bouncers, and trampolines. Have the student begin in a kneeling position while the teacher gently bounces the trampoline. The student can place his hands on either side of the knees for additional stability. The teacher can place her hands on the students to encourage pushing off. Gently bounce the trampoline while pushing down on the student's hands. As the student becomes familiar with the activity, he can begin bouncing without the support of the teacher.

When the student is ready to bounce in a standing position, staff can hold the student's hands at either side while gently bouncing the trampoline. Encourage the student to bend his knees and push off with the feet. Staff assistance can be gradually faded.

To teach jumping on the floor, the student should place his hands on the teacher's shoulders while the teacher holds either side of his waist. Give the instruction to bend, while pushing down on the hips. Give the instruction to "jump" while pulling up on the hips and jumping with the student. This assistance can be faded to the student holding the teacher's forearms, hands fingers, etc., as teacher assistance to the hips decreases.

After developing jumping in place, the student is ready to learn to make a standing broad jump. Tape a line on the floor as the starting position. Hold the student's hands or use a walking belt to assist in moving forward. As the student jumps, provide assistance in moving forward. The student should land in a position ahead of the line.

When teaching jumping from heights, begin by using small elevations (4", 6", 8", etc.). The student should place his hands on the teacher's shoulders, the teacher's hands on the student's waist. Instruct the student to "Jump down", while providing assistance. As the student's skill increases, the amount of physical assistance from the teacher should decrease to holding the student's hands and then just the fingers.

JUMPS FLATFOOTED

PREREQUISITE SKILLS: stands without support, flexes and extends legs, transfers weight

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance, modeling

AVAILABLE ADAPTIVE EQUIPMENT: bouncing tube, safety walking belt, safety bouncer, body balance coordination unit

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Project Memphis, Teaching Resource Curriculum

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. bend knees, lowering body
3. swing arms back
4. push off with heels and toes, pulling arms and shoulders straight up
5. return to soles of feet

JUMPS IN PLACE (FEET TOGETHER)

PREREQUISITE SKILLS: stands without support, flexes and extends legs, transfers weight

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance, modeling

AVAILABLE ADAPTIVE EQUIPMENT: bouncing tube, safety walking belt, safety bouncer, body balance coordination unit

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Project Memphis, Teaching Resource Curriculum

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. bend knees, lowering body
3. bring arms back from shoulders
4. keep trunk perpendicular to floor
5. push off heels to toes while thrusting arms upwards to head level, extending arms and legs
6. land on soles of feet

LOCOMOTION/JUMPING

JUMPS ON TOES

PREREQUISITE SKILLS: stands without support, flexes and extends legs, transfers weight, stands on tip-toes

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance, modeling

AVAILABLE ADAPTIVE EQUIPMENT: safety walking belt, safety bouncer, body balance coordination unit, bouncing tube

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Project Memphis, Teaching Resource Curriculum

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. bend knees, lowering body
3. bring arms back from shoulders
4. push off heels to toes while thrusting arms upwards to head level, extending arms and legs
5. return to balls of feet, arms at sides
6. bend knees
7. bring arms back
8. push off balls of feet, thrusting arms upward, extending arms and legs
9. return to balls of feet
10. repeat for ten jumps

LOCOMOTION/JUMPING

JUMPS FORWARD (TWO FEET)

PREREQUISITE SKILLS: stands without support, flexes and extends legs, transfers weight

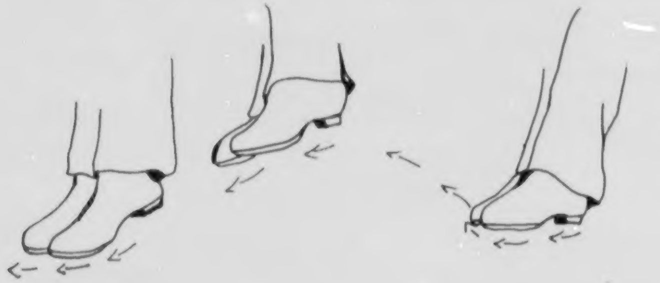
RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance, modeling

AVAILABLE ADAPTIVE EQUIPMENT: safety walking belt, safety bouncer, body balance coordination unit, bouncing tube

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Project Memphis, Teaching Resource Curriculum

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. bend knees, lowering body
3. bend forward at waist
4. bring arms back from shoulders
5. push off heels to toes while thrusting arms forward, extending arms and legs
6. land heel to toe, knees bent to absorb impact, bringing head, shoulders, and torso back
7. return to relaxed position



LOCOMOTION/JUMPING

JUMPS FROM HEIGHT (12")

PREREQUISITE SKILLS: stands without support, flexes and extends legs, transfers weight

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: safety walking belt, rocking board, safety bouncer, body balance coordination unit, bouncing tube

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Project Memphis, Teaching Resource Curriculum

TASK ANALYSIS:

1. stand in correct weight-bearing positon at edge of elevation
2. bend knees, lowering body
3. lean torso forward
4. bring arms back from shoulders
5. push off heels to toes while thrusting arms forward
6. continue arm motion bringing arms overhead, head, shoulders, and torso back
7. land on ground heel to toe, bending knees to absorb impact
8. return to erect position

LOCOMOTION/JUMPING

JUMPS IN ONE PLACE ON ONE FOOT (HOPS)

PREREQUISITE SKILLS: stands on one foot unsupported, flexes and extends legs, transfers weight

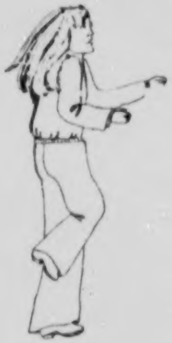
RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: safety walking belt, rocking board, safety bouncer, body balance coordination unit, bouncing tube

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Project Memphis, Teaching Resource Curriculum

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. lean to dominant side, keeping dominant foot flat on floor, transferring weight to that side
3. bend alternate knee, raising foot off floor
4. point toe of alternate foot towards floor
5. bend elbows so that forearms are perpendicular to body
6. bend knee of dominant leg, lowering body
7. push off ball of dominant foot, extending leg
8. land heel to toe on dominant foot, knee slightly bent to absorb impact
9. repeat 5 times



LOCOMOTION/JUMPING

JUMPS BACKWARDS

PREREQUISITE SKILLS: stands without support, flexes and extends legs, transfers weight

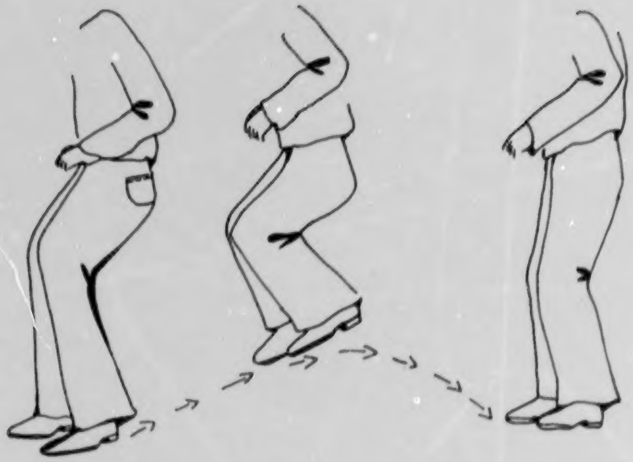
RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance, modeling

AVAILABLE ADAPTIVE EQUIPMENT: safety walking belt, rocking board, safety bouncer, body balance coordination unit, bouncing tube

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Project Memphis, Teaching Resource Curriculum

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. bend knees, lowering body
3. bend forward from waist
4. lower head
5. roll to balls of feet, heels off floor
6. pull arms back from shoulders
7. push off toe to heel while thrusting arms, shoulders, torso, and head back
8. land toe to heel, knees bent to absorb impact
9. return to relaxed position



LOCOMOTION/JUMPING

HOPS FORWARD ON EACH FOOT (WITHOUT ALTERNATING)

PREREQUISITE SKILLS: stands on one foot unsupported, flexes and extends legs, transfers weight

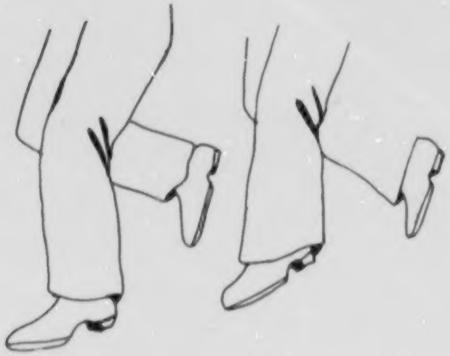
RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance, modeling

AVAILABLE ADAPTIVE EQUIPMENT: safety walking belt, rocking board, safety bouncer, body balance coordination unit, bouncing tube

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project, Project Memphis, Teaching Resource Curriculum

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. lean to dominant side, keeping dominant foot flat on floor, shifting weight to that side
3. bend alternate knee up, raising foot off floor
4. point toe of alternate foot towards floor
5. bend elbows so that forearms are perpendicular to body
6. bend knee of dominant leg, lowering body
7. lean torso forward
8. push off with ball of dominant foot, extending leg
9. land on dominant foot, heel to toe, knee slightly bent to absorb impact
10. repeat steps #6-9 3 times
11. place alternate foot on floor
12. lean to alternate side, shifting weight
13. bend dominant knee up, raising foot off floor
14. point toe of dominant foot towards floor
15. bend knee of alternate leg, lowering body
16. lean torso forward
17. push off with ball of alternate foot, straightening leg
18. land on alternate foot, heel to toe, knee slightly bent to absorb impact
19. repeat steps #15-18 three times



LOCOMOTION/JUMPING

HOPS FORWARD, ALTERNATING FEET

PREREQUISITE SKILLS: stands on one foot unsupported, flexes and extends legs, transfers weight

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance, modeling

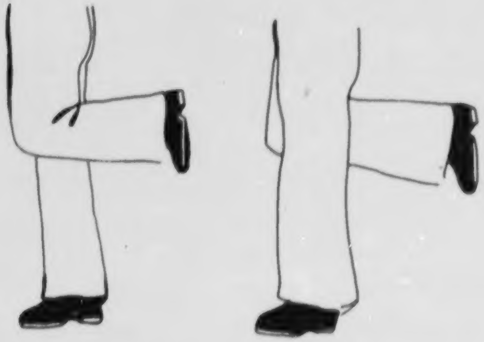
AVAILABLE ADAPTIVE EQUIPMENT: safety walking belt, rocking board, safety bouncer, body balance coordination unit, bouncing tube

RELEVANT ABSTRACTS: Corvallis, Marshalltown Project; Project Memphis, Teaching Resource Curriculum

TASK ANALYSIS:

1. stand in correct weight-bearing position
2. lean to dominant side, keeping dominant foot flat on floor, transferring weight
3. bend alternate knee up, raising foot off floor
4. point toe of alternate foot towards floor
5. bend elbows so that forearms are perpendicular to body
6. bend knee of dominant leg, lowering body
7. lean torso forward
8. push off ball of dominant foot, extending leg
9. land on dominant foot, heel to toe, knee slightly bent to absorb impact
10. place alternate foot ahead of dominant
11. lean forward to alternate side, keeping alternate foot on floor
12. bend dominant knee up, raising foot off floor
13. point toe of dominant foot towards floor
14. lean torso forward

15. bend knee of alternate leg, lowering body
16. push off with ball of alternate foot, extending leg
17. land on alternate foot, heel to toe, knee slightly bent to absorb impact
18. repeat steps #9-16 alternating feet



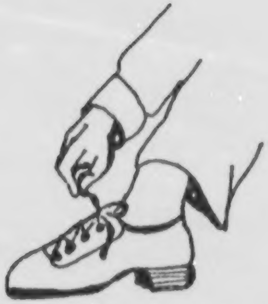
DIGITAL

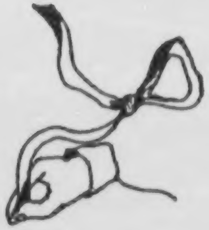
DIGITAL

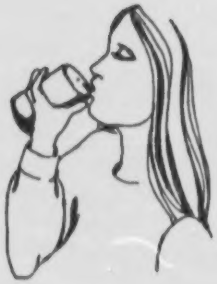
This section deals with the ability to handle, move, shift, or activate an object using one or both hands. Grasping involves the ability to obtain objects by using the thumb and fingers in a palmar grasp or using them in opposition. Release is the ability to relax the hand from a flexed position until contact with the object is lost.

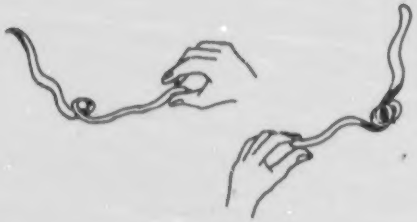
A prime consideration in developing grasp is developing awareness of hands. This must occur before the student can make purposeful movements with his hands. Grasp begins with "reaching" with the eyes. This means the student visually locates stimuli and then reaches for it. Non-sighted students receive stimulation through their other senses. To encourage grasp, the teacher can provide a variety of tactile experiences to enhance the senses. Attaching bells to the student's hands will encourage movement and awareness of hands; placing interesting objects within the student's reach (mobiles, coordination toys, mirrors, etc.). Stimuli should be presented at various heights and distances. A battery operated response board with bells, lights and other noise-makers encourages digital movement and exploration. Buttons and switches should be large enough so they are easily manipulated.

When presenting objects to the student to grasp, begin by using large objects that are soft and easy to hold and don't require a great degree of fine motor coordination. As the student's grasp becomes more refined, smaller objects can be presented.









DIGITAL
USES WHOLE HAND WITHOUT THUMB IN GRASPING

PREREQUISITE SKILLS: clenches hands

RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

AVAILABLE ADAPTIVE EQUIPMENT: digitator hand exerciser, theraplast, knuckle bender splint

RELEVANT ABSTRACTS: Corvallis, Portage Project, Project Memphis

TASK ANALYSIS:

1. open hand
2. bring palm up against object
3. close fingers around object
4. grasp object
5. raise hand, holding object
6. sustain grasp

DIGITAL
HOLDS OBJECT IN ONE HAND (PALM UPWARD AND CUPPED)

PREREQUISITE SKILLS: clenches hands

RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

AVAILABLE ADAPTIVE EQUIPMENT: knuckle bender splint, thera-plast

RELEVANT ABSTRACTS: Corvallis

TASK ANALYSIS:

1. open hand around object

(place rattle in student's hand)

2. curl fingers around object
3. close hand, grasping object
4. sustain grasp for 10 seconds
5. increase time grasp is sustained in 5 second increments

DIGITAL
HOLDS THUMB TIP OPPOSITE OTHER FINGERS WHEN GRASPING

PREREQUISITE SKILLS: clenches hand, grasps object

RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

AVAILABLE ADAPTIVE EQUIPMENT: knuckle bender splint, thera-plast

RELEVANT ABSTRACTS: Project Memphis

TASK ANALYSIS:

1. place palm flat on top of object
2. curl fingers around object
3. curl thumb under object, opposite other fingers
4. grasp object
5. pick up object
6. sustain grasp for 10 seconds

DIGITAL
CLOSES ON DANGLING OBJECT WITH BOTH HANDS

PREREQUISITE SKILLS: fixates on object with eyes, grasps, extends arms

RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

RELEVANT ABSTRACTS: Marshalltown Project, Portage Project, Project Memphis, Teaching Resource Curriculum

TASK ANALYSIS:

(Hold dangling object at midline)

1. make eye-contact with object
2. extend hands towards object
3. when hands reach object, move palms around object
4. close hands around object, grasping object

DIGITAL

SHAKES OBJECT

PREREQUISITE SKILLS: grasps

RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

RELEVANT ABSTRACTS: Corvallis

TASK ANALYSIS:

1. place palm on object
2. curl fingers around object
3. grasp object
4. raise hand, picking up object
5. move forearm from elbow back and forth, shaking object

DIGITAL

TRANSFERS OBJECT FROM HAND TO HAND AT MIDLINE

PREREQUISITE SKILLS: grasps, moves hands across midli

RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

RELEVANT ABSTRACTS: Corvallis

TASK ANALYSIS:

1. pick up object in dominant hand
2. move dominant hand across body to position in front of center of chest
3. move alternate hand across body to position in front of center of chest
4. place alternate hand around object
7. grasp object in alternate hand
8. release object from dominant hand
9. bring hands to rest

DIGITAL

HOLDS AND DRINKS FROM CUP WITH TWO HANDS

PREREQUISITE SKILLS: grasps, flexes arms, drinks from a cup

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: glass holder, detachable handles for drinking glasses, drinking cups with modified handles

RELEVANT ABSTRACTS: Corvallis

TASK ANALYSIS:

1 place palms against sides of glass

2. wrap fingers and thumbs around glass

3. grasp glass

4. bend elbows, bringing glass upward vertically towards mouth

5. rest closer rim of glass on bottom lip

6. rotate wrists, tilting glass towards mouth

7. close lips around rim of glass

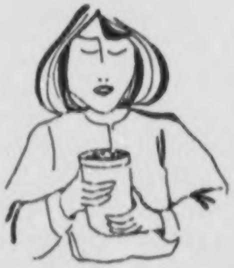
8. take one mouthful of fluid

9. swallow fluid

10. rotate wrists, releasing lips and tilting glass back to vertical position

11. bring glass to table

12. release glass



DIGITAL

HOLDS AND DRINKS FROM CUP WITH ONE HAND

PREREQUISITE SKILLS: grasps, flexes arms, drinks from a cup

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: glass holder, detachable handles for drinking glasses, drinking cups with modified handles

RELEVANT ABSTRACTS: Corvallis

TASK ANALYSIS:

1. place palm against side of galss

2. wrap fingers and thumb around glass

3. grasp glass

4. bend elbow, bringing glass upward vertically towards mouth

5. rest closer rim of glass on bottom lip

6. rotate wrist, tilting glass toward mouth

7. close lips around rim of glass

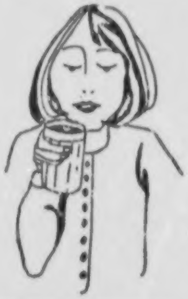
8. take one mouthful of fluid

9. swallow fluid

10. rotate wrist, releasing lips and tilting glass back to vertical position

11. bring glass to table

12. release glass



DIGITAL
OPENS A DRAWER

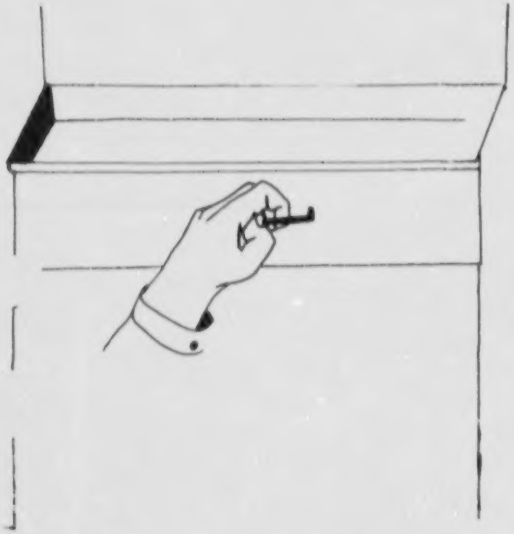
PREREQUISITE SKILLS: grasps

RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

RELEVANT ABSTRACTS: Corvallis

TASK ANALYSIS:

1. place fingers on handle, thumb underneath
2. wrap fingers around handle, grasping handle
3. pull back with arm, opening drawer



DIGITAL
TURNS A KNOB

PREREQUISITE SKILLS: grasps, rotates wrist

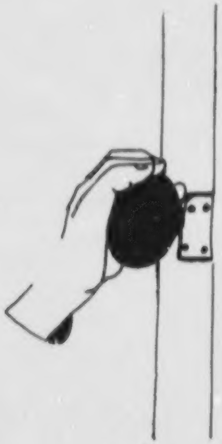
RECOMMENDED INSTRUCTIONAL APPROACH: total physical guid

AVAILABLE ADAPTIVE EQUIPMENT: rotary wrist supinator, thera-plast, digitator hand exerciser, dumbbell hand exerciser

RELEVANT ABSTRACTS: Corvallis, Marshalltown Program, Portage Project

TASK ANALYSIS:

1. place hand on knob
2. wrap fingers firmly around knob, grasping knob
3. rotate forearm and wrist
4. keeping hand firmly on knob, push door open
5. release knob



DIGITAL

STACKS SMALL OBJECTS

PREREQUISITE SKILLS: has pincer grasp, has eye-hand coordination

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

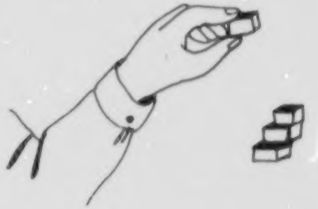
AVAILABLE ADAPTIVE EQUIPMENT: finger board

RELEVANT ABSTRACTS: Corvallis, Marshalltown Program, Portage Project, Project Memphis

TASK ANALYSIS:

(use 1" cubes)

1. pick up one cube with thumb and index finger
2. move cube directly over base cube
3. place cube evenly on base cube
4. release cube
5. pick up second cube from pile with thumb and index finger
6. move cube directly over stack
7. place cube evenly on stack
8. release cube
9. repeat steps 5-8 for five cubes



DIGITAL

MANIPULATES EGG BEATER

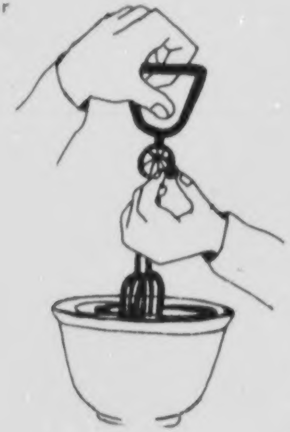
PREREQUISITE SKILLS: grasps, rotates wrists

RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

AVAILABLE ADAPTIVE EQUIPMENT: rotary wrist supinator, digitator hand exerciser, dumbbell hand exerciser, grip exerciser

TASK ANALYSIS:

1. grasp top handle of beater in alternate hand, palm on top, fingers wrapped under
2. place beaters in bowl vertically
3. wrap dominant hand around rotation handle, thumb opposite fingers
4. holding alternate hand firmly in place, push rotation handle forward with dominant hand
5. when handle reaches furthest point away from body, begin pulling handle towards body
6. continue rotation in a smooth manner



DIGITAL

REMOVES WRAPPER FROM CANDY

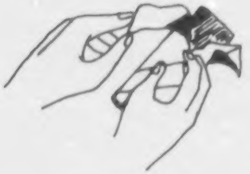
PREREQUISITE SKILLS: has pincer grasp

RECOMMENDED INSTRUCITONAL APPROACH: backchaining

RELEVANT ABSTRACTS: Portage Project

TASK ANALYSIS:

1. grasp wrapper 1" from end with alternate index finger and thumb
2. pick up candy
3. place dominant finger and thumb on opposite side of same end
4. while holding bar in place with alternate hand, tear wrapper by pulling down with dominant hand
5. put down torn piece of wrapper in dominant hand
6. grasp exposed piece of bar with dominant hand
7. pull candy from wrapper
8. put down wrapper



DIGITAL

FEEDS SELF WITH FORK

PREREQUISITE SKILLS: grasps, flexes arm

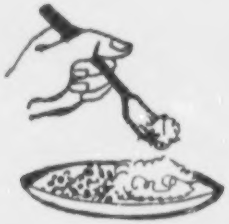
RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

AVAILABLE ADAPTIVE EQUIPMENT: feeding mechanism, angled fork, ball-bearing feeder, food guards, scoop dish, suction holder, universal plate positioner, dorsal feeding splint, utensils - built-up, swivel, expanded, horizontal or vertical palm, utensil holders

RELEVANT ABSTRACTS: Corvallis

TASK ANALYSIS:

1. grasp fork handle
2. point prongs downward
3. push prongs of fork down into food
4. raise fork up off plate, food stuck in prongs
5. raise fork to mouth
6. move fork into mouth, food behind teeth
7. close mouth
8. pull fork out of mouth so that food is removed behind teeth
9. return fork to plate



DIGITAL

POURS FROM CUP TO CUP

PREREQUISITE SKILLS: grasps

RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

RELEVANT ABSTRACTS: Corvallis

TASK ANALYSIS:

1. place palm of dominant hand against side of ½ filled cup
2. wrap fingers and thumb around cup
3. grasp cup
4. place palm of alternate hand against side of empty cup
5. wrap fingers and thumb around cup
6. grasp cup
7. raise filled cup from table
8. keeping cups vertical, bring rims together
9. raise filled cup 1" higher than empty cup
10. rotate wrist of dominant hand until liquid begins to pour into empty cup
11. continue to rotate wrist until cup is empty
12. rotate wrist in opposite direction until cup is vertical
13. return cup to table
14. repeat pouring sequence steps #7-13 for alternate hand

DIGITAL

POURS FROM ONE QUART PITCHER

PREREQUISITE SKILLS: grasps, rotates wrists

RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

RELEVANT ABSTRACTS: Corvallis

TASK ANALYSIS:

1. place palm of dominant hand against side of handle
2. wrap fingers in through handle
3. place thumb on top of handle, resting on index finger
4. grasp pitcher firmly
5. raise pitcher from table
6. hold glass with alternate hand
7. **raise glass**
8. bring spout of pitcher to side of glass
9. tilt pitcher, pouring fluid into glass
10. when glass is 3/4 full, tilt pitcher back to vertical position
11. place pitcher on table
12. place glass on table

DIGITAL

UNSCREWS JAR LID

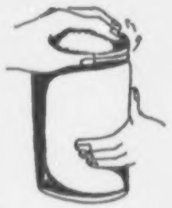
PREREQUISITE SKILLS: grasps, rotates wrists, manipulates with both hands

RECOMMENDED INSTRUCTIONAL APPROACH: backchaining

AVAILABLE ADAPTIVE EQUIPMENT: jar opener

TASK ANALYSIS:

1. place jar on table
2. place dominant hand on top of jar
3. place alternate hand around middle of jar
4. grasp top of jar by placing palm of hand flat on surface of top, gripping with fingers around edge of top
5. turn top counter clockwise until lid separates from jar
6. lift top off jar
7. place top on table
8. release jar



DIGITAL

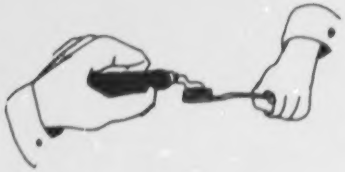
BRUSHES TEETH

PREREQUISITE SKILLS: grasps, flexes arm

RECOMMENDED INSTRUCTIONAL APPROACH: backchaining

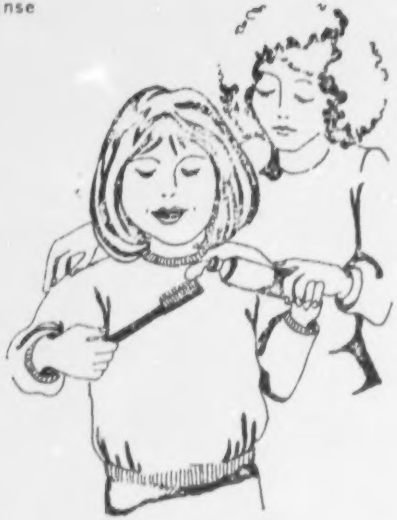
AVAILABLE ADAPTIVE EQUIPMENT: extension handled toothbrush

RELEVANT ABSTRACTS: Corvallis, Read Project



TASK ANALYSIS:

1. pick up toothpaste with alternate hand
2. place dominant thumb and index finger around cap
3. rotate cap until it separates from tube
4. put cap down
5. pick up brush with dominant hand
6. hold brush in fist, bristles facing up
7. bring tube and brush together
8. squeeze appropriate amount of paste on brush
9. put tube down
10. bring brush to mouth
11. hold brush at inward angle to gums
12. brush bottom left teeth and gums, moving forarm up and down
13. brush bottom front teeth and gums
14. brush bottom right teeth and gums
15. brush top left teeth and gums
16. brush top front teeth and gums
17. brush top right teeth and gums
18. remove brush from mouth
19. spit out paste
20. turn on water with alternate hand
21. move brush under water to rinse
22. turn off water
23. put brush down



DIGITAL

FOLDS PAPER WITH EDGES OVERLAPPING

PREREQUISITE SKILLS: manipulates with both hands

RECOMMENDED INSTRUCTIONAL APPROACH: backchaining

RELEVANT ABSTRACTS: Marshalltown Project, Portage Project, Project Memphis

TASK ANALYSIS:

1. place paper horizontally on table
2. place palm of alternate hand flat on side of paper
3. slide dominant hand, palm up, under opposite side of paper
4. lift dominant hand, rolling edge of paper towards center
5. continue rolling dominant hand until palm is flat, touching alternate hand
6. move alternate hand out from paper
7. place alternate hand flat on overlapping paper
8. bring dominant hand fold in paper
9. place pads of fingers firmly on fold at bottom
10. slide fingers along fold, bottom to top
11. bring hands to rest

DIGITAL

FOLDS PAPER WITH EDGES TOGETHER

PREREQUISITE SKILLS: manipulates with both hands

RECOMMENDED INSTRUCTIONAL APPROACH: backchaining

RELEVANT ABSTRACTS: Marshalltown Project, Portage Project, Project Memphis

TASK ANALYSIS:

1. place paper horizontally on table
2. place palm of alternate hand flat on side of paper
3. grasp opposite bottom corner with dominant index finger and thumb
4. bring bottom corner of paper to opposite side with dominant hand
5. remove thumb
6. line up edges with dominant hand
7. move alternate hand out from paper, keeping dominant hand in place
8. place alternate hand flat on edges of paper
9. move dominant hand to bottom fold in paper
10. place pads of fingers firmly on fold at bottom
11. slide fingers along fold, bottom to top
12. bring hands to rest

DIGITAL

TOUCHES FINGERS OF ONE HAND WITH INDEX FINGER OF OTHER

PREREQUISITE SKILLS: extends fingers

RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

AVAILABLE ADAPTIVE EQUIPMENT: finger ladder

RELEVANT ABSTRACTS: Marshalltown Project

TASK ANALYSIS:

1. extend fingers of dominant hand
2. keeping index finger extended, curl other fingers into palm
3. extend fingers of alternate hand
4. bring pad of index finger of dominant hand to external finger of alternate hand
5. touch each successive finger of alternate hand
6. repeat sequence with other hand

DIGITAL

STRINGS BEADS (1" DIAMETER)

PREREQUISITE SKILLS: hand pincer grasp

RECOMMENDED INSTRUCTIONAL APPROACH: backchaining

AVAILABLE ADAPTIVE EQUIPMENT: finger board

RELEVANT ABSTRACTS: Corvallis, Illinois Program, Marshalltown Project, Portage Project, Project Memphis, Teaching Resources Curriculum

TASK ANALYSIS:

1. pick up lace end(point) 1" form end with thumb and index finger of dominant hand
2. pick up bead with index finger and thumb of alternate hand
3. line up hole of bead with lace end
4. push lace end into hole until it passes through the other side
5. release lace end from dominant hand
6. move index finger and thumb of dominant hand to other side of bead
7. grasp lace end
8. pull lace end through until bead reaches knot at end of string
6. release bead from alternate hand
10. repeat steps #2-9 for five beads

DIGITAL

SCRIBBLES WITH PENCIL OR CRAYON

PREREQUISITE SKILLS: manipulates with both hands, grasps

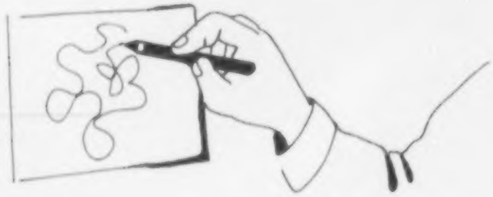
RECOMMENDED INSTRUCTIONAL APPROACH: total physical guidance

AVAILABLE ADAPTIVE EQUIPMENT: cuff and strap pencil holder, pencil grips, table writer, enabler/writing, Chubbi Stump crayons

RELEVANT ABSTRACTS: Marshalltown Project, Portage Project

TASK ANALYSIS:

1. hold crayon in hand (any grasp)
2. bring tip of crayon to paper
3. move forearm and wrist back and forth keeping crayon tip in contact with paper



DIGITAL

HOLDS PAPER WITH OPPOSITE HAND WHEN WRITING

PREREQUISITE SKILLS: manipulates with both hands, g

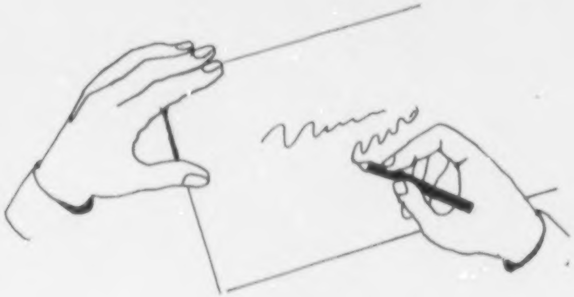
RECOMMENDED INSTRUCTIONAL APPROACH: shaping

AVAILABLE ADAPTIVE EQUIPMENT: cuff and strap pencil holder, table writer, enabler/writing, pencil grips

RELEVANT ABSTRACTS: Marshalltown Project, Portage Project

TASK ANALYSIS:

1. place alternate hand on top corner of paper
2. place pencil tip on paper
3. begin writing, holding paper in place with alternate hand
4. as pencil moves down paper, move alternate hand down holding paper in place



DIGITAL

SNIPS WITH SCISSORS

PREREQUISITE SKILLS: grasps, moves thumb and fingers in opposition

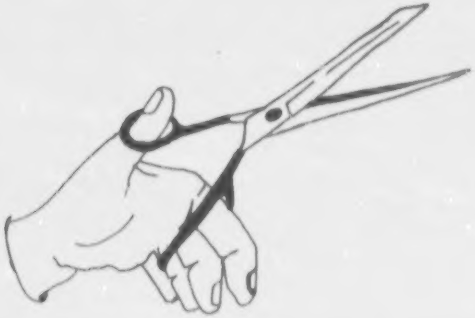
RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: amputee scissors, left-hand scissors, four-loop scissors

RELEVANT ABSTRACTS: Corvallis, Portage Project, Project Memphis, Teaching Resources Curriculum

TASK ANALYSIS:

1. pick up closed blades of scissors in alternate hand
2. place index finger of dominant hand in hole
3. place dominant thumb in opposite hole
4. pick up paper in alternate hand
5. rotate wrist of dominant hand so that thumb is over index finger, point of scissors facing away from body
6. hold paper perpendicular to body
7. move dominant thumb and index finger away from each other, opening scissors
8. move blades of scissors around paper so that joint of blades touches paper
9. bring thumb and fingers together, closing blades around paper until paper is cut
10. move thumb and fingers away from each other, opening scissors
11. repeat steps #8-10 making random cuts on paper
12. place paper on table
13. bring fingers of dominant hand together, closing blades of scissors
14. grasp closed blades of scissors with alternate hand
15. remove dominant hand from handles
16. place scissors on table



DIGITAL

CUTS WITH SCISSORS IN STRAIGHT LINE

PREREQUISITE SKILLS: grasps, moves thumb and fingers in opposition

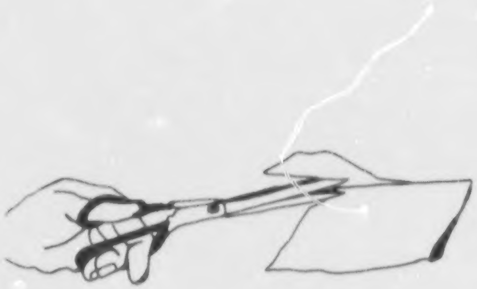
RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: amputee scissors, left-hand scissors, four-loop scissors

RELEVANT ABSTRACTS: Corvallis, Portage Project, Project Memphis, Teaching Resource Curriculum

TASK ANALYSIS:

1. pick up closed blades of scissors in alternate hand
2. place index finger of dominant hand in hole
3. place dominant thumb in opposite hole
4. pick up apper in alternate hand
5. rotate wrist of dominant hand so that thumb is over index finger, point of scissors facing away from body
6. hold paper perpendicular to body
7. move dominant thumb and index finger away from each other, opening scissors
8. move blades of scissors around bottom of paper so that joint of blades is in center of 1" line
9. bring thumb and fingers together, closing blades around paper until paper is cut
10. move thumb and fingers away from each other, opening scissors
11. move scissors forward until joint of blades touches uncut part of line
12. bring thumb and fingers together, closing blades around paper until paper is cut
13. repeat steps #9-11 until entire line is cut



14. place paper on table
15. bring fingers of dominant hand together, closing blades of scissors
16. grasp closed blades of scissors with alternate hand
17. remove dominant hand from handle
18. place scissors on table with alternate hand

(reduce width of line to 3/4", 1/2", 1/4", 1/8" when there is no deviation in cutting on the preceding length.)

DIGITAL
CUTS WITH SCISSORS ALONG CURVED OR ANGLING LINES

PREREQUISITE SKILLS: grasps, moves thumb and fingers in opposition

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: amputee scissors, left-hand scissors, four-loop scissors

RELEVANT ABSTRACTS: Corvallis, Portage Project, Project Memphis, Teaching Resources Curriculum

TASK ANALYSIS:

(use 1" thick line)

1. pick up closed blades of scissors in alternate hand
2. place index finger of dominant hand in hole
3. place dominant thumb in opposite hole
4. pick up paper in alternate hand
5. rotate wrist of dominant hand so that thumb is over index finger, point of scissors facing away from body
6. hold paper perpendicular to body
7. move dominant thumb and index finger away from each other, opening blades
8. move blades of scissors around bottom of paper so that joint of blades is in center of line
9. bring thumb and fingers together , closing blades around line until line is cut
10. as line curves towards center of paper, turn wrist of dominant hand keeping blades on line

    (as line curves away from center of paper, turn paper with alternate hand)
11. move thumb and fingers away from each other, opening scissors
12. continue cutting (steps #8-11) until entire line is cut
13. place paper on table
14. bring fingers of dominant hand together, closing blades of scissors
15. grasp closed blades of scissors with alternate hand
16. remove dominant hand from handle
17. place scissors on table with alternate hand
18. (begin reducing width of line when there is no deviation in the preceding length)

DIGITAL

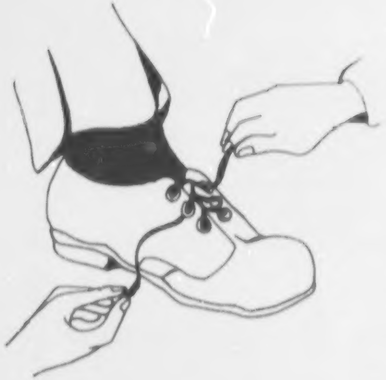
LACES SHOES

PREREQUISITE SKILLS: has pincer grasp, transfers objects from hand to hand

RECOMMENDED INSTRUCTIONAL APPROACH: backchaining

AVAILABLE ADAPTIVE EQUIPMENT: long handled shoe horn, shoe-aid fasteners, tylastic laces, shoe closure device

RELEVANT ABSTRACTS: Corvallis, Read Project



TASK ANALYSIS.

(use bicolored black and white laces)

1. hold shoe with toe pointing away from body
2. hold black end of lace in right hand between forefinger and thumb
3. hold right flap of shoe up with left hand
4. thread black lace end through right hand hole in 1st row, from outside to inside
5. hold left flap of shoe up with left hand
6. holding black lace end in right hand, thread lace through lefthand hole in 1st row
7. take black lace end in left hand between left forefinger and thumb
8. grasp white lace end with right hand
9. pull black lace through with left hand
10. pull laces up with both hands
11. release laces
12. hold right flap of shoe up with right hand
13. grasp black lace end in left hand between left forefinger and thumb
14. thread black lace end through righthand hole in 2nd row from inside out
15. releasing flap of shoe, grasp black lace end with right hand and and pull through
16. release black lace from right hand
17. hold up left side of shoe with left hand
18. using right hand, grasp white lace end between forefinger and thumb
19. thread white lace end through lefthand hole in 2nd row from inside out
20. releasing flap of shoe, grasp white lace end in left hand and pull through
21. continue until fully laced

DIGITAL

TIES SHOE LACES

PREREQUISITE SKILLS: has pincer grasp, transfers objects from hand to hand at midline

RECOMMENDED INSTRUCTIONAL APPROACH: backchaining

AVAILABLE ADAPTIVE EQUIPMENT: long handled shoe horn, shoe-aid fasteners, tylastic laces, shoe closure device

RELEVANT ABSTRACTS: Marshalltown Project, Project Memphis

TASK ANALYSIS:

(use black and white laces)

1. grasp white lace 2 or 3 inches from end with left hand
2. grasp black lace 2 or 3 inches from end with right hand
3. to cross laces, cross black lace over toward left and on far side (away from body) of white lace
4. pass black lace to left hand, pinching both laces (white behind) between left forefinger and thumb
5. hold both laces up with left hand
6. grasp white lace end with right hand
7. bring white lace end over black lace (away from body)
8. use right forefinger to push white lace end back through and under black lace (toward body)
9. grab white lace end between right forefinger and thumb
10. release white lace from left hand
11. using left hand, pull black lace to left
12. using right hand, pull white lace to right
13. tighten knot
14. release laces
15. with left forefinger and thumb, grasp white lace 3" from knot
16. using right forefinger and thumb, pinch white lace together to form loop
17. release white lace from left hand
18. with left hand, grasp black lace 3" from knot
19. circle toward body with black lace
20. circle white loop and right forefinger and thumb with black lace bringing black lace around loop and away from body
21. to form second loop, use left forefinger to push black lace back through circle formed by black lace (toward body)
22. using left forefinger, push black lace against tip of right hand
23. using right forefinger and thumb, release white loop to grasp newly formed black loop
24. using left forefinger and thumb, grasp white loop
25. pull both loops to tighten bow
26. release loops

DIGITAL
MANIPULATES FASTENERS
(BUTTONS/FEMALE)

PREREQUISITE SKILLS: has pincer grasp, transfers objects from hand to hand at midline

RECOMMENDED INSTRUCTIONAL APPROACH: backchaining

AVAILABLE ADAPTIVE EQUIPMENT: button hooks, combination button pull and zipper pull, finger board

RELEVANT ABSTRACTS: Corvallis, Read Project

TASK ANALYSIS:

1. grip left edge of button in left hand between forefinger and thumb
2. grip buttonhole lapel in right hand
3. place right thumb on outside of buttonhole parallel to button
4. place right forefinger on inside of buttonhole parallel to button
5. push right thumb tip partially through buttonhole
6. using left hand, push right edge of button against right thumb tip
7. lift right forefinger up and over lapel to outside of buttonhole, bringing right forefinger to rest on top of right thumb
8. grip right edge of button with right forefinger and thumb
9. lift left forefinger to outer edge of buttonhole lapel
10. push with left thumb tip against left edge of button
11. grip buttonhole lapel with left forefinger and thumb (forefinger on outside, thumb underneath)
12. pull button to right with right hand
13. pull lapel to left with left hand
14. using left hand, pull down on buttonhole to situate button in center of hole
15. release button and lapel

DIGITAL
MANIPULATES FASTENERS
(BUTTONS/MALE)

PREREQUISITE SKILLS: has pincer grasp, transfers objects from hand to hand at midline

RECOMMENDED INSTRUCTIONAL APPROACH: backchaining

AVAILABLE ADAPTIVE EQUIPMENT: button hooks, combination button pull and zipper pull, finger board

RELEVANT ABSTRACTS: Corvallis, Read Project

TASK ANALYSIS:

1. grip right edge of button in right hand between forefinger and thumb
2. grip button hole lapel in left hand
3. place left thumb on outside of buttonhole parallel to button
4. place left forefinger on inside of buttonhole parallel to button
5. push left thumb tip partially through buttonhole
6. using right hand, push left edge of button against left thumb tip
7. lift left forefinger up and over lapel to outside of buttonhole, bringing left forefinger to rest on top of lf.thumb
8. grip left edge of button with left forefinger and thumb
9. lift right forefinger to outer edge of buttonhole lapel
10. push with right thumb tip against right edge of button
11. grip buttonhole lapel with right forefinger and thumb, (forefinger on outside, thumb underneath)
12. pull button to left with left hand
13. pull lapel to right with right hand
14. using right hand, pull down on buttonhole lapel to situate button in center of hole
15. release button and lapel

IMITATES SPREADING OF HAND AND BRINGING THUMB INTO OPPOSITON WITH FINGERS

PREREQUISITE SKILLS: imitates, extends fingers, holds thumb tip opposite other fingers in grasping

RECOMMENDED INSTRUCTIONAL APPROACH: shaping

AVAILABLE ADAPTIVE EQUIPMENT: finger board

RELEVANT ABSTRACTS: Corvallis, Illinois Program, Marshalltown Program, Teaching Resource Curriculum

TASK ANALYSIS:

1. hold hand with fingers extended, palm facing body
2. bring pad of thumb to pad of index finger
3. move pad of thumb away from index finger
4. bring pad of thumb to pad of middle finger
5. move pad of thumb away from middle finger
6. bring pad of thumb to pad of ring finger
7. move pad of thumb away from ring finger
8. bring pad of thumb to pad of small finger
9. move pad of thumb away from small finger
10. repeat for other hand

BOWEL AND BLADDER

BOWEL AND BLADDER

FLUSHES TOILET

PREREQUISITE SKILLS: recognizes toilet and knob for flushing, manipulates with hands and arms

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

RELEVANT ABSTRACTS: Corvallis, Illinois Program, Portage Project, Project Memphis, Steps to Independence, Teaching Resource Curriculum, Toilet Training the Retarded

TASK ANALYSIS:

1. grasp flusher knob
2. push down on knob with fingers
3. release knob
4. wait until flushing noise stops
5. repeat procedure if toilet does not flush completely

BOWEL AND BLADDER

TOILETS INDEPENDENTLY

PREREQUISITE SKILLS: manipulates with hands and arms

RECOMMENDED INSTRUCTIONAL APPROACH: shaping

AVAILABLE ADAPTIVE EQUIPMENT: commodes, toilet wiping aid, grab bars

RELEVANT ABSTRACTS: Corvallis, Illinois Program, Portage Project, Project Memphis, Steps to Independence, Teaching Resource Curriculum, Toilet Training the Retarded

TASK ANALYSIS:

1. enter bathroom
2. shut the door
3. go to the toilet
4. pull down pants
5. sit on toilet
6. eliminate in toilet
7. grasp paper
8. tear off paper
9. clean slef
10. discard paper
11. stand up
12. pull up pants
13. grasp handle
14. flush toilet
15. go to sink
16. wash hands
17. leave bathroom

BOWEL AND BLADDER

WIPES SELF

PREREQUISITE SKILLS: manipulates with hands and arms

RECOMMENDED INSTRUCTIONAL APPROACH: graduated guidance

AVAILABLE ADAPTIVE EQUIPMENT: toilet wiping aid, commodes

RELEVANT ABSTRACTS: Corvallis, Illinois Program, Portage Project, Project Memphis, Steps to Independence, Teaching Resource Curriculum, Toilet Training the Retarded

TASK ANALYSIS:

1. go to bathroom on own
2. pull down pants and underpants
3. sit on toilet
4. eliminate in toilet
5. pull appropriate amount of tissue paper from roll
6. tear paper loose from roll
7. fold tissue in hand
8. bend trunk of body forward, resting chest on thighs
9. lift derriere off toilet seat
10. place hand holding paper around one leg, between thighs at front of genitals
11. wipe self from front to back, past rectum
12. inspect paper for signs of remaining feces, then dispose of paper
13. tear paper loose from roll (2nd time)
14. fold paper in hand
15. bend trunk forward resting chest on thighs
16. lift buttocks off toilet seat
17. wipe self from front to back
18. dispose of paper in toilet
19. flush toilet
20. pull up underpants and pants

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BOWEL AND BLADDER

INITIATES TOILET ACTIVITY

PREREQUISITE SKILLS: manipulates with hands and arms, moves pants up and down

RECOMMENDED INSTRUCTIONAL APPROACH: shaping

AVAILABLE ADAPTIVE EQUIPMENT: commodes, toilet wiping aid, grab bars

RELEVANT ABSTRACTS: Corvallis, Illinois Program, Portage Project, Steps to Independence, Teaching Resource Curriculum, Toilet Training the Retarded

TASK ANALYSIS:

1. stand up
2. indicate need to go (verbal or sign)
3. walk to door
4. open door
5. walk through door
6. go to the bathroom
7. open door
8. pull down pants
9. sit down
10. eliminate in toilet
11. grasp paper
12. tear off paper
13. clean self
14. discard paper in toilet
15. stand up
16. pull up pants
17. flush toilet
18. open door
19. leave bathroom
20. walk to classroom
21. enter classroom
22. sit down in class

GLOSSARY

GLOSSARY

ABDUCTION: movement away from the midline of the body

ADDUCTION: movement towards the midline of the body

APHASIA: the inability to perform purposeful movements although there is no muscular or sensory loss

ASYMMETRICAL: one side of the body is different from the other

ATHETOID: uncontrolled and continuous movements of the body; fluctuating muscle tone

ATROPHY: a decrease in size or wasting away of a body part or tissue

BALANCE: maintaining equilibrium by even distribution of weight

CEREBRAL PALSY: a disorder of posture and movement resulting from brain damage

CLIMBING: the ability to move the body over an obstacle or hurdle: the ability to pull oneself up, over or to the top of an obstacle by using hands and feet

CLONUS: shaking movements of spastic muscles after the muscles have been suddenly stretched

CONTRACTURE: permanently tight muscles and joints

COORDINATION: the patterning of the muscles of the body working together

CRAWLING: the ability to move in the environment on one's hands and knees with the stomach off the floor

CREEPING: the ability to move the body forward or backward in the environment with the stomach touching the floor

DEVELOPMENT: growth of the brain and body

DIPLEGIA: a type of cerebral palsy mostly affecting the legs but with some involvement of the arms

DORSIFLEXION: lifting of the foot up towards the body

EQUILIBRIUM: maintaining a state of balance

GLOSSARY

EVERSION: turning out of the foot

EXTENSION: straightening of any part of the body

EYE-MOTOR COORDINATION: the ability to coordinate vision with motor activities

FLACCID: a floppiness of the limbs or body

FLEXION: bending of a body part

GRASPING: the ability to obtain an object by using the thumb and fingers

HEAD CONTROL: the ability to control the position of the head

HEMIPLEGIA: involving only half of the body

HORIZONTAL: body is parallel to the floor

HYPOTONIA: decreased muscle tension, preventing maintainance of posture against gravity and difficulty in starting a movement due to lack of fixation

INHIBITION: a special technique of handling, aimed at stopping the spastic or athetoid patterns which prevent or interfere with normal activity

INVERSION: turning in of the foot

JUMPING: the ability to propel the body upward in a vertical direction leaving the ground for a few seconds. The ability to get down from an object by pushing off and landing on one or both feet

KEY POINTS: parts of the body from which one can reduce spasticity and simultaneously facilitate more normal postural and movement reactions.

KNEELING: the ability to shift the bulk of one's weight from hands and knees to knees only

MANIPULATION: the ability to handle, move, shift, or activate an object using one or both hands

MOVEMENT: a change of position

GLOSSARY

MUSCLE TONE: the state of tension of muscles at rest and when in motion

PASSIVE: that which is done to the child without his help or cooperation

PATHALOGICAL: abnormal

PATTERNS OF MOVEMENT: the brain putting muscles into action in well coordinated groups

PHYSIOTHERAPY: the treatment of disorders of movement

PLANTAR FLEXION: pointing downwards of the foot

POSTURE: the position from which the individual starts a movement

PRIMITIVE MOVEMENTS: baby movements

PRONATION: turning of the arm with the palm of the hand down

PRONE: lying on the stomach

QUADRUPLEGIA: affecting the whole body

REFLEXES: postures and movements beyond the individual's control

RELEASE: the ability to relax the hand from a flexed position until contact with an object is lost

RIGHTING: the ability to put the head and body right when positions are abnormal or uncomfortable

RIGIDITY: very stiff posture and movements

ROLLING: the ability to move one's body from a prone to supine or supine to prone position

ROTATION: movement around the axis

RUNNING: the ability to rapidly move the feet forward in an alternating pattern so that both feet leave the ground for an instant in each step, keeping the body in an upright position

SIDE LYING: individual lies on his side

SCOLIOSIS: a lateral curvature of the spine with displacement of the upper trunk toward one side

GLOSSARY

SITTING: the ability to rest the posterior on a surface with the trunk in a vertical position and maintaining balance. The legs can be in a horizontal position and the body has no means of external support

SPASM: a sudden tightening of the muscles

SPASTICITY: increased muscle tone or stiffness

SPATIAL: relationship of one thing to another in space learned through vision and movement

STANDING: the ability to raise the body from a sitting or kneeling position to a vertical position

SUPINATION: turning of the arm with the palm of the hand up

SUPINE: lying on the back

SYMMETRICAL: both sides equal

TONIC NECK REFLEX: when the turning of the head causes one arm to straighten and stiffen and the other to bend and stiffen

TRUNK: the body as distinct from the limbs

VERTICAL: body is perpendicular to the floor

VOLUNTARY MOVEMENTS: movements done with intention and with concentration

WALKING: the ability, while in a vertical position, to produce bilateral stepping movements that move the body through the environment with no external means of support

BODY POSITION CARDS

(R.R. Schmoll)

Teaching Resources Corp.
100 Boylston St.
Boston, Mass. 02116

A program centered around body control. It is composed of activity cards which are ordered from simple to complex activities. For use in a classroom.

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CORVALLIS

Corvallis School District
1555 S.W. 35th Street
Corvallis, Oregon 97330

Contains programs in the following motor areas:

Gross Motor (locomotion Skills)
1. rolls over by self
2. scoots backward
3. circles on stomach on floor
4. continuously rolls body
5. creeps
6. crawls
7. somersaults
8. walks
9. runs
10. jumps vertically/both feet
11. jumps down from height equal to height of student's knees
12. jumps vertically with both feet-6"
13. jumps vertically with right foot
14. jumps vertically with left foot
15. jumps vertically with right foot-6"
16. jumps vertically with left foot-6"
17. hops on both feet
18. skips
19. pivots on one foot

Gross Motor (Eye-Hand Coordination)
1. rolls ball
2. throws ball distance of 10 feet
3. throws ball at target
4. catches ball sequenced in size 10"-21/2" (tennis ball)
5. bounces ball sequenced in size 10"-21/2" (tennis ball)
6. bats ball with bat

Gross Motor (Balance Skills)
1. controls head and neck while on stomach
2. controls head and upper trunk while sitting
3. sits
4. stands with support
5. stands without support
6. stands from prone
7. stands on one foot
8. stands on tiptoes
9. crouches on tiptoes
10. stands heel to toe
11. walks forward on balance beam with alternating feet
12. drops from horizontal bar/ lands on feet

Gross Motor (Walking Skills)
1. walks forward
2. walks backward
3. walks sideways to left
4. walks sideways to right
5. steps over knee-high obstacles
6. ducks under shoulder high obstacles
7. passes between obstacles and wall
8. runs
9. runs obstacle course

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Gross Motor (Eye-Foot Coordination)

1. ascends stairs with alternate feet without support
2. descends stairs with alternate feet without support
3. climbs up ladder
4. goes down ladder
5. kicks ball to target
6. shuffles ball with feet
7. walks staggered mat
8. walks forward on 1" line, on 10" diameter semicircle with alternating feet
9. jumps over obstacles

Gross Motor (Strength and Endurance)

1. does curl-ups
2. does push-ups
3. does pull-ups
4. pushes and pulls object 1/4 body weight
5. pushes and pulls body weight to target
6. lifts objects 1/4 body weight
7. carries objects 1/4 body weight

Gross Motor (Athletic Skills)

1. runs 50 yard dash
2. runs 100 yard dash
3. runs 300 yard dash
4. runs 440 yard dash
5. runs a mile
6. does standing long-jump
7. does running long-jump
8. swims
9. throws soft ball
10. does high jump
11. plays foursquare
12. plays frisbee

Gross Motor (Calisthenics)

1. imitates arm movements
2. touches toes from standing position
3. raises knee to chest from standing position
4. does "lateral bending"
5. does "arm circling"
6. raises chest and legs simultaneously from prone
7. does "side leg raises"
8. does "leg-overs"
9. does "jumping jacks"

Fine Motor (Eye-Hand Coordination)

1. follows moving objects
2. reaches for objects
3. removes and replaces shapes on individual boards
4. sorts shapes using multiple shape box
5. covers same object on picture lotto
6. places single piece in puzzle
7. colors
8. pastes
9. paints
10. differentiates between various sized cylinders, barrels, boxes, bars
11. sorts and places 4-piece stage puzzle

Fine Motor (Finger Dexterity)

1. grasps objects
2. picks up objects with hands
3. picks up objects with fingers
4. puts rings on peg
5. changes objects from hand to hand
6. stacks one object on top another
7. screws/unscrews
8. opens, closes doors
9. touches nose, alternating hands
10. touches thumb with individual finger tips
11. alternates hands opening and closing
12. picks up match sticks with one/both hands
13. pours
14. taps continuously
15. threads belt through loops
16. strings beads
17. winds thread
18. cuts paper

Feeding

massaging of mouth tissues and lips to establish "sucking reflex"
chewing semi-solid foods
drinking from a cup with a handle
drinking liquid from a straw
seating oneself at the table
using a napkin correctly
exhibiting good posture at the table
swallows on command
eats with fingers
uses a spoon
uses fork to eat
cuts with a spoon or fork
spreads with a knife on bread

A CURRICULUM GUIDE FOR
PSYCHONEUROLOGICALLY INEFFICIENT
PRESCHOOL CHILDREN

(Section Two: Body Awareness and Control)

Peter K. Hainsworth, Ph.D.
Education Development Center
55 Chapel St.
Newton, Mass. 02160

This program is concerned with including a relevant gross motor program in the curriculum as a means of presenting important information to a child. The program offers activities in the following motor skills as a means of assessing the child's development.

1. Warm-up Activities
2. Basic Rhythms and Animal Walks
3. Games with Chairs
4. Rope Games
5. Skipping
6. Jumping with Two Feet
7. Somersaulting
8. Jump Rope
9. Roller Skating
10. Body Image/Parts Recognition
11. Right/Left Body Recognition

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CURRICULUM GUIDE FOR TEACHERS OF THE SEVERELY HANDICAPPED

Missouri State Department of Elementary and Secondary Education
P.O. Box 480
Jefferson City, Missouri

Training cards are provided to teach various eating skills. Each card indicates skill area, sub-skill area, objective, required material and training procedure. Skills included are:

chewing and swallowing solid food
finger feeding
use of spoon
eating with fork
use of knife
drinking through a straw
drinking from cup or glass
drinking from water fountain
balanced eating and drinking
use of napkin
table manners

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DIRECTIONAL MAT

Teaching Resources
100 Boylston St.
Boston, Mass. 02116

A six by four foot mat with a numbered grid painted on and a teacher's guide. The mat is an aid to body knowledge and control by spatially structuring how the child is to move. Helps develop body image, spatial relations, laterality, and directionality.

DUBNOFF PROGRAM ONE

Teaching Resources
100 Boylston St.
Boston, Mass. 02116

Crossing the Midline Remediation

Level 2 of this program includes 3 student workbooks, acetates, instructor's guide and crayons. The pages give prewriting exercises with confined boundaries and colored guides.

The program provides fine motor coordination, demanding a smooth pencil movement with a beginning and an end. It also teaches left to right writing movement. Sequenced to move from pictures to symbols.

FROSTIG PROGRAM

Marianne Frostig
Consulting Psychologist Press
Palo Alto, California

A set of 359 ditto masters of remedial exercises divided into five subject areas plus a teacher's guide. The worksheets aid in developing eye-motor (hand) coordination. Exercises include:

drawing straight and curved lines horizontally, vertically, and diagonally with and without guidelines

stopping and starting on target

GROSS MOTOR TRAINING PROGRAM

Easter Seal Rehabilitation Center of Greater Manchester, Inc.
80 Tarrytown Road
Manchester, New Hampshire

Activities:
1. walking board
2. balance board
3. ball activities
4. bean bag
5. concepts of body size
6. obstacle course
7. stunts and games
8. body image
9. ball handling
10. rhythm
11. angels in the snow

HANDLING THE YOUNG CEREBRAL PALSIED CHILD AT HOME

Nancie R. Finnie FCSP

Sunrise Books
E.P. Dutton & Co., Inc.
New York, N.Y.

A guide for professionals, para-professionals, and parents of cerebral palsied children. The book is an in depth guide to teaching and providing appropriate experiences for the C.P. child. Covered in the text are:

general guidance
parent's problems
movement
basic principles of handling
sleeping
toilet training
bathing
dressing
feeding
speech
carrying
babycarriages, strollers, chairs
hammocks, wedges, prone boards
aids to mobility
the psychologist and the child with C.P.
the fundamentals of grasp and manipulation
play
glossary
reading list
resources for equipment and accessories

I CAN

(Individualized Physical Education Curriculum Materials)

Janet A. Wessel, Ph.D.
Professor and Director
Field Service Unit
Michigan State University
Department of Health, Physical Education and Recreation
East Lansing, Michigan

The I CAN instructional program is designed to help the teacher:

define a comprehensive physical education program
assess student's needs
prescribe instructional activities
teach an individualized program
record and report continuous progress
evaluate student change and program implementation
recommend and make changes for program improvement

Instructional materials are available for four areas:
fundamental skills
body management
health/fitness
aquatics

THE MARSHALLTOWN PROJECT

Department of Special Education
Marshall-Powershiek Joint County School System
9 Westwood Drive
Marshalltown, Iowa 50158

Each program is organized in the following way:
Profile Item
Behavioral Definition
Cues
Measurement Criteria
Materials Needed
Behavioral Objectives and Strategies

The project provides sequences covering the following areas:

follows object to midline
holds head erect in mid-position when being held
follows moving object with eyes (ex. Mobile)
elevates self on forearms
head erect and steady
from prone position, lifts head and shoulders at 90° angle and looks around
recovers rattle from chest
grasps object placed in hand
retains grasp on block, held in each hand
sits with slight support
reaches for objects beyond grasp
momentarily supports a large portion of his weight
pulls self up into sitting position
bangs with object held in his hands
turns from stomach to back, from back to stomach
sits erectly in chair
transfers object from one hand to the other
sits without support
bounces when held in standing position
picks up small objects using pincer grasp
makes stepping movements when held
stands holding on
crawls (stomach touches floor)
pulls to standing position
removes peg from pegboard
creeps
cruises-walks sideways- while holding on to supporting objects with both hands

sits down from standing position
bangs two blocks held in hands
constancy of form (ex. If bottle handed backward, reverses to find nipple)
searches for vanished objects
pivots in sitting position
shift form sitting to prone and prone to sitting
removes a round object from form board
sits down from free standing position
moves to rhythms
stands alone
walks with help
marks on paper with crayon
stacks rings on pegs
dumps small object from bottle
walks alone
creeps upstairs (4 treads at time)
throws objects/picks them up again (evidence of ability to release an object in his grasp)
rolls ball
inserts object in hole
walks and runs
walks sideways
walks backwards
climbs upon furniture
creeps downstairs backward (unassisted)
carries objects
walks upstairs with help
turns page of book (2-3 pages at once)
builds tower of 2-3 blocks
scribbles imitatively
makes painting strokes (often in arc)
walks downstairs, one hand held
climbs forward into adult's chair, turns around, and sits
correctly places circle and square in form board
walks up and down stairs alone, both feet on one step at a time, holding onto railing
imitates vertical and circular strokes in scribbling
squats and rises to standing position without using hands
rolls, pounds, and squeezes clay
builds tower of five or more blocks
makes blocks into a train (two or more)
opens doors by turning knob
kicks a large ball (ground level/stationary)
strings beads together
bends at waist to pick up something off floor (without falling)
turns pages of book singly
folds paper imitatively
correctly nests four or more small square boxes

stands on either foot and balances
pushes and pulls large toys
stands on tiptoe (demonstrated)
jumps off floor
throws large ball 4 to 5 feet
walks between parallel lines (8" apart)
holds crayon with fingers
puts small object in bottle
alternates feet going upstairs
jumps from bottom stair (8-12")
rides tricycle using pedals
walks tiptoe 10 feet
uses scissors
traces a square
copies drawing of circle
copies drawing of cross
stacks rings on pegs in order
builds bridge from blocks with model
traces diamond
prints a few capital letters (large, single/anywhere on paper)
builds simple toy
draws head of person and one other part
imitates spreading of hand and bringing thumb into opposition
  with each finger
standing broad jump
running broad jump
turns somersaults
throws ball overhand
hops forward on one foot, 4-6 hops
copies square
ties knot
heel to toe walk (10 foot line forward)
heel to toe walk (10 foot line backward)
walks length of walking board
jumps rope
dances to music
draws house/2-5 items
skips, using alternate feet
catches bounced ball, two out of three times
kicks ball (beginning drop kick)
roller skates
copies triangle
ties shoes
rides bicycle (may use training wheels)
copies rectangle, with diagonal

Feeding
serves self
spreads butter with a knife
holds own cup to lips and drinks
uses fork
uses napkin
pours liquid from small pitcher
cuts soft food with fork
cuts with a knife

THE ILLINOIS PROGRAM

(Part IV of Systematic Instruction for Retarded Children)

Interstate Printers, Inc.
1927 North Jackson
Danville, Illinois 61823

A curriculum of motor performance and recreation instruction which includes programs for the following skills:

Gross Motor
walking
marching
kicking
throwing
pulling
pushing
rolling
jumping
crawling
hopping
climbing
swinging
squatting
catching
kneeling
hitting
running
hanging
walking on a balance beam

Fine Motor
drawing
clay modeling
pasting
cutting
puttingon/taking off bottle
  caps
paper tearing
bead threading, etc.

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A MOTOR TRAINING PROGRAM FOR THE DEVELOPMENTALLY YOUNG

Diane D. Bricker, Ph.D.
Mailman Center
P.O. Box 520006
Miami, Florida 33152
Atten: Motor Program

A program that describes the developmental sequence a child follows in acquiring motor skills. Programs for teaching these skills and tactics to employ are listed as well as ways to keep data.

Each program includes:
1. definition of the skill
2. how to take baseline data
3. training procedures
4. training probes
5. generalization activities

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MOVE, GROW, LEARN PROGRAM

Follett Publishing Company
1010 West Washington Blvd.
Chicago, Illinois 60607

181 activity cards in the following areas:

1. body awareness
2. relaxation
3. breathing
4. laterality
5. directionality
6. balance
7. strength
8. speed

PATHWAY SCHOOL PROGRAM

(Gerald N. Getman, O.D., D.O.S.)

Teaching Resources Corp.
100 Boylston St.
Boston, Mass. 02116

This program has developmental sequences of games and exercises to help develop:

1. coordination of body-arm-hand-eye movements in unison
2. body awareness
3. directionality
4. simultaneous coordination of both hands
5. judgement of the amount of body movement and force for accurate directional control

PORTAGE PROJECT

David E. Shearer, Director
412 E. Slifer St.
Portage, Wisconsin 53901

Package components: The first component is a developmentally sequenced list of behaviors in the motor area which assists in identifying skills the student has and what the next step is. The second component is a collection of activity cards which correspond to each of the behaviors on the checklist.

List of specific activities in the motor area:

reaches for object 6-9" in front of him
grasps object held 3" in front of him
reaches and grasps object in front of him
reaches for preferred object
puts object in mouth
head and chest supported on arms while on stomach
holds head and chest erect supported on one arm
feels and explores object with mouth
turns from stomach to side, maintains position 50% of time
rolls from stomach to back
moves forward one body length on stomach
rolls from back to side
turns from back to stomach
pulls to sitting position when grasping adult's fingers
turns head freely when body is supported
maintains sitting position for two minutes
puts down one object deliberately to reach for another
picks up and drops object on purpose
stands with maximum support
bounces up and down in standing position while being supported
crawls one body length to obtain object
sits self-supported
from sitting position turns to hands and knees position
moves from stomach to sitting position
sits without hand support
flings objects haphazardly
rocks back and forth on hands and knees
transfers object from one hand to the other in sitting position

retains two 1" cubes in one hand
pulls self to standing position
uses pincer grasp to pick up object
creeps
reaches with one hand from creep position
stands with minimum support
licks food from around mouth
stands alone for one minute
dumps object from receptacle
turns pages of book, several at a time
scoops with spoon or shovel
puts small objects in container
lowers self from standing to sitting position
claps hands
walks with minimum aid
takes a few steps without support
creeps upstairs
moves from sitting to standing position
rolls a ball in imitation
climbs into adult chair, turns and sits
puts four rings on peg
removes 1" pegs from pegboard
puts 1" pegs in pegboard
builds tower of 3 blocks
marks with crayon or pencil
walks independently
creeps down stairs, feet first
seats self in small chair
squats and returns to standing
pushes and pulls toys while walking
uses rocking horse or rocking chair
walks upstairs with aid
bends at waist to pick up object without falling
imitates circular motion
strings 4 large beads in two minutes
turns door knobs, handles, etc.
jumps in place with both feet
walks backwards
walks downstairs with aid
throws ball to adult 5 feet away without adult moving feet
builds tower of 5-6 blocks
turns pages one at a time
unwraps small object
folds paper in half in imitation
takes apart and puts together snap-together toys
kicks large stationary ball
rolls clay balls
grasps pencil between thumb and forefinger

grasps pencil between thumb and forefinger, resting on 3rd finger
forward somersault with aid
pounds 5 out of 5 pegs
puts together 3-piece puzzle or formboard
snips with scissors
jumps from height of 8 inches
kicks large ball when rolled to him
stands on tiptoe
runs 10 steps with coordinated, alternating arm movement
pedals tricycle 5 feet
swings on swing when started in motion
climbs up and slides down 4-6 foot slide
somersaults forward
walks up stairs, alternating feet
marches
catches ball with two hands
uses templates
cuts along 8" straight line within 1/4" of line
stands on one foot without aid 4-8 seconds
runs changing direction
walks on balance beam
jumps forward 10 times without falling
jumps over string 2" off the floor
jumps backward 6 times
bounces and catches large ball
makes clay shapes put together with 2 or 3 parts
cuts curve
screws together threaded object
walks down stairs alternating feet
pedals tricycle turning corners
hops on one foot 5 successive times
cuts out 2" circle
draws simple recognizable pictures such as horse, man, tree, etc.
cuts out and pastes simple shapes
prints capital letters large, single, anywhere on paper
walks balance board forward, backward, and sideways
skips
swings on swing imitating and sustaining motion
spreads fingers touching thumb to each finger
can copy small letters
climbs up step ladder or steps ten feet high to slide
hits nail with hammer
dribbles ball with directions
colors remaining within 95% of lines
can cut picture from magazine or catalogue without being
  more than 1/4" from edge
uses pencil sharpener
copies complex drawings
tears simple shapes from paper

folds paper square two times on diagonal in imitation
catches soft ball or bean bag with one hand
can jump rope by self
hits ball with bat or stick
picks up object from ground while running
skates forward 10 feet
rides bicycle
slides on sled
walks or plays in water waist-high in swimming pool
steers wagon, propelling with one foot
jumps up and pivots on one foot
prints name on primary paper using lines
jumps from height of 12" and lands on balls of feet
stands on one foot, no support, eyes closed for 10 seconds
hangs 10 seconds from horizontal bar bearing own weight on arms

Suggestions and activities to use for social training.

sucks and swallows liquid
eats liquified foods
eats strained food fed by parents
holds bottle without help while drinking
eats mashed table foods fed by parent
drinks from cup held by parent
eats semi-solid food fed by parent
feeds self with fingers
holds and drinks from cup using two hands
takes spoon filled with food to mouth without help
eats table food with spoon independently
holds and drinks from cup with one hand
feeds self using spoon and cup with some spilling
sucks liquid from glass or cup using straw
scoops with fork
chews and swallows only edible substances
uses napkins when reminded
stabs food with fork and brings to mouth
pours from small pitcher into glass without help
feeds self entire meal
uses correct utensils
uses knife for spreading soft toppings on toast
serves self at table/parent holds serving dish
serves self at table and passes serving dish
cuts soft food with knife
opens 1/2 pint carton

PROJECT ACTIVE

(All Children Totally Involved in Exercising)

Dr. Thomas Vodola, Project Director
Supervisor of Health, Physical Education and Driver Education
Township of Ocean School District
Dow Avenue
Oakhurst, New Jersey 07755

A competency-based teacher training program in physical education for the handicapped. Provides diagnostic-prescriptive strategies, experiences in a field setting, individualized and personalized learning.

The competencies dealt with are:

individualized instruction
scheduling
physical fitness/motor performance
body mechanics
breathing problems
nutritional deficiencies
motor disabilities/limitations
mentally retarded/learning disabilities
partially-sighted/blind
evaluation design and results

PROJECT MEMPHIS

Dr. Alton D. Quick
Dept. of Special Education and Rehabilitation
Memphis State University
Memphis, Tennessee 38152

The major emphasis of this program is to assist in planning individual programs for children in areas where there is developmental delay. The components of the project include:

1. Programming Guide
2. MEMPHIS Comprehensive Developmental Scale
3. Skills Assignment Sheet
4. Continuous Record of Educational Gain
5. Lesson Plans

The following is a list of specific plans in the motor area:

Gross Motor
rolling over to side from back position
balancing head
travelling by rolling, creeping or scooting
sitting unsupported - Level 1
pulling to a stand
sitting unsupported - Level 2
walking with support
walking unsupported
rising from sitting to standing position
going about house or yard with minimum supervision
sitting
running
squatting to play
walking up and down stairs - Level 1
throwing or kicking a large ball
walking on tiptoes
standing and kicking without demonstration
jumping
standing on one foot momentarily - Level 1
pedaling a tricycle
balancing
walking up stairs - Level 1
climbing
walking down stairs

standing on one foot - Level 2
walking up and down stairs - Level 2
rising from lying to standing position
walking up stairs - Level 2
standing on one foot - Level 3
skipping
standing on one foot - Level 4
hopping on one foot
catching a ball
walking up and down stairs - Level 3
walking heel to toe
walking on balance beam
standing on one foot - Level 5
walking on tiptoe or skipping
rising from lying to standing position

Fine Motor

being aware of hands
having open and loosely fisted hands
grasping objects
reaching out for nearby objects
poking precisely at tiny objects
using pincer grasp
grasping and releasing
holding crayon
placing cubes in cup
placing pellets in a bottle - Level 1
turning pages - Level 1
placing pellets in a bottle - Level 2
building four-block tower
unwrapping
stringing beads
turning pages - Level 2
folding paper
imitating crayon strokes - Level 1
imitating crayon strokes - Level 2
building eight-block tower
cutting functionally
holding crayon appropriately
building nine-block tower
placing pellets in bottle - Level 3
stringing beads
copying circle
manipulating tiny objects
tracing a cross
constructing
tracing a diamond
placing pellets in bottle - Level 4

using scissors
catching
copying a cross
manipulating wash cloth
drawing three-part man
attempting to tie shoelaces
copying square
placing pellets in bottle - Level 5
cutting

Feeding

sucking and swallowing
drinks from a cup or glass with assistance
places food in mouth with hands
chews food
spoon feeding
drinking from a cup or glass unassisted
self-feeding skills
eating with a fork
sucking from a plastic straw
getting a drink unassisted
self-feeding
using a paper straw appropriately

STEPS TO INDEPENDENCE

Research Press
Box 31779
Champaign, Illinois 61820

Motor Activities:
1. crawling
2. getting up from floor to a standing position
3. sitting down on a chair
4. standing up from a chair
5. walking
6. going up and coming down stairs
7. flight of stairs
8. coming down stairs

TEACHING RESOURCE CURRICULUM

Charles C. Thomas, Publisher
301-327 East Lawrence Avenue
Springfield, Illinois 62717

This curriculum provides mastery objectives and task analyses for the motor area.

Tone Normalization Activities
weight bearing with the ball
head righting with the ball
turning righting reaction
weight bearing with the ball (child bears weight on floor)

Gross Motor Skills (basic)
independent movement - prone
rolling program (supine to prone)
head holding - sitting position
sitting in child's chair
sitting in adult chair

Gross Motor Skills (lower extremity)
independent weight bearing (grasping reflex)
independent weight bearing (non-grasping)
standing (floor to weight bearing)
independent movement (non-grasping)
running

Gross Motor Skills (upper extremity)
reaches for object
grasps object with hand

Body Orientation
steps over obstacle at knee height
ducks under bar
steps sideways
touches nose
opens and closes hands
opens and closes doors
imitates arm movements

Fine Motor Skills (lower extremity)

- walking up inclined surface
- walking down inclined surface
- walking up stairs
- walking down stairs
- standing heel to toe
- child walks forward
- child stands on tip-toe with eyes open
- crouching on toes
- child stands on tip-toe with eyes closed
- standing on one foot, eyes opened
- standing on one foot, eyes closed
- jumps on toes
- jumps over knee-height bar

Fine Motor Skills (upper extremity)

- picks up objects with fingers
- multiple shape box
- rings on a peg
- string beads
- shapes on board
- graduated cylinders
- pegboard
- picture puzzle
- pastes
- holds pencil or crayon
- colors within a circle
- cuts with scissors
- touches fingers in succession with thumb

Strength Skills

- push/pull objects
- lift objects
- carry objects
- waist bend
- leg lift
- curl-ups
- jumping jacks
- modified push-ups
- squat thrusts
- chin-ups

Recreation Skills

- ball skills, roll and throw
- bounces ball, catches ball
- catches thrown ball
- swimming - enters water
- swimming - submerge
- swimming - floating
- swimming - movement
- swimming - jumping off diving board
- swimming - diving

TOILETING PROGRAMS

CORVALLIS PUBLIC SCHOOL CURRICULUM

Corvallis Public Schools
Corvallis, Oregon 97330

Programs on toilet training and reading potty chart symbols each include a behavioral objective, materials, pre/post test, criteria, teacher direction, and sequence steps.

LESSON PLANS FOR ENHANCING PRESCHOOL DEVELOPMENT PROGRESS

Project Memphis
Alton D. Quick
Department of Special Education and Rehabilitation
Memphis State University
Memphis, Tennessee 38152

Programs for toilet training skills that include: purpose, equipment, specific procedures and suggested criteria. Space is provided on each program to add additional activities, equipment and notes and a blank sheet is provided to add other procedures for the stated purpose.
Programs include: toilet training - Level 1 (learning to ask to go to the toilet), toilet training - Level 2 (learning appropriate toileting skills by going to the toilet unassisted), Level 3 (learning to care for oneself completely at the toilet).

PORTAGE GUIDE TO EARLY EDUCATION

The Portage Project
Cooperative Educational Service Agency 12
412 East Slifer St.
Portage, Wisconsin 53901

Suggestions and activities to use when toilet training - activity cards cover the following: sits on potty or infant toilet seat for five minutes, uses words or gestures indicating need to go to the bathroom,asks to go to the bathroom, even if too late to avoid accidents, urinates or defecates three times per week when placed on potty, uses potty for bowel movements, one day time accident per week, asks to go to bathroom during day in time to avoid accidents, stays dry during naps, wakes up dry two mornings out of seven, makes urine in toilet standing up, wakes from sleep during night to use toilet or stays dry all night, goes to bathroom in time, undresses, wipes self, flushes toilet, and dresses.

The manual contains sections on the descriptions of developmental areas, use of the checklist and cardfile, planning curriculum goals, and implementing goals.

STEPS TO INDEPENDENCE SERIES (TOILET TRAINING)

Research Press
Box 31779
Champaign, Illinois 61820

Procedures for toilet training and specific sequences are included. Sections include: record eliminations, where to begin - bowel or urine training?, determining a toilet schedule, rewards for learning, bowel training, urine training, independent toileting, guidelines for teaching programs, questions and answers. Sequence include : pulling down and pulling up pants, drying hands, washing hands.

SYSTEMATIC INSTRUCTION FOR RETARDED CHILDREN - THE ILLINOIS PROGRAM - PART 3

Linford, Hipsher, and Silikovitz
Interstate Printers and Publishers, Inc.
Danville, Illinois

This book provides an explanation of a toilet training program divided into four sections: basic questions raised by parents and child care workers, pretraining observation and recordkeeping, developing and implementing a toilet training schedule and developing a child's self control.

THE TEACHING RESOURCE CURRICULUM FOR MODERATELY AND SEVERELY HANDICAPPED

Charles C. Thomas, Publisher
301-327 East Lawrence Avenue
Springfield, Illinois 62717

This independent toileting program, compiled by the Teaching Research Infant and Child Center Staff, includes a stated objective and sequenced steps using shaping and fading of assistance.

TOILETING PROGRAMS (CONT.)

TOILET TRAINING THE HANDICAPPED
Instructional Development Corporation
P.O. Box 361
Monmouth, Oregon 97361

TOILET TRAINING THE RETARDED (R.M. Foxx and N.H. Azrin)
Research Press
2612 North Mattis Ave.
Champaign, Illinois 61820

A program for rapid toilet training of the handicapped. It involves an intensive effort to teach individuals to self-initiate toileting through a system of positive reinforcement for appropriate elimination. Accidents are dealt with through cleanliness training and positive practice. Included are ways to fade prompts, data sheets for baseline and training information, and a maintainance program to sustain the toileting behavior through periodic dry-pants checks.

ADAPTIVE EQUIPMENT

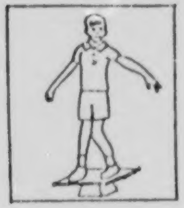
PROSTHETICS AND ADAPTIVE EQUIPMENT

The following pages contain descriptions and illustrations of available adaptive and rehabilitative equipment. The equipment is divided into eight sections: support equipment, head control, facial control, posture, digital, limb control, locomotion, and bowel and bladder.

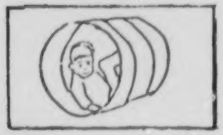
This adaptive equipment is designed primarily to help the individual function more independently in his environment. Adaptive equipment may be used as an aid in developing motor skills or to help an individual demonstrate more adequate motor skills. In itself, the equipment does not teach the skill but must be accompanied by an appropriate instructional intervention.

SUPPORT EQUIPMENT

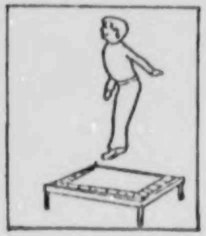
BALANCE SQUARE:
An aid in developing balance. Child balances by shifting his weight. Comes with two bases of different widths.



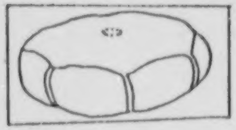
BARREL ROLL:
Aids in developing weight shifting when the student is seated on the barrel. Can also be used for crawling and climbing exercises.



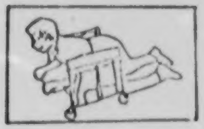
BODY BALANCE COORDINATION UNIT:
Useful for developing balance and spatial relations. Can be used in sitting, standing, or kneeling positions.



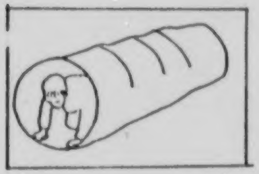
BOUNCING TUBE:
Can be used in a lying, sitting, or standing position. Useful for body coordination exercises. Tube is inflatable and serves as a substitute trampoline.



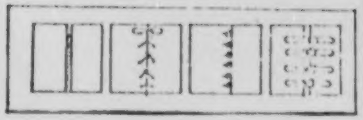
CRAWLER:
This crawler supports the chest and abdomen while allowing the child to crawl. Casters allow easier motion.



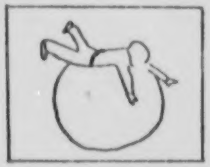
CRAWLING TUNNEL:
Tunnel is useful in developing body-spatial relationships.



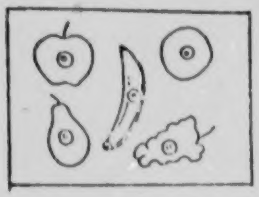
DRESSING FRAME SET:
Useful for training fastening skills and developing fine motor coordination. Fasteners are large for easier manipulation. Zipper, lace, tie, button, buckle.



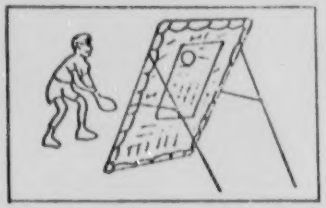
EXERCISE BALL:
Can be used to develop reflex reactions and for positioning by placing the individual on the ball.



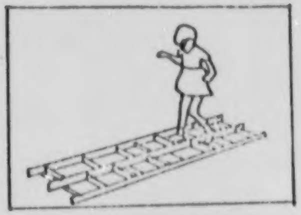
KNOBBED PUZZLES:
Aids individuals in developing eye-hand coordination and visual perception.



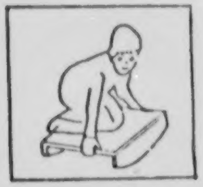
PITCH BACK:
A throwing target which bounces the ball back. Useful for tracking and visual-motor coordination.



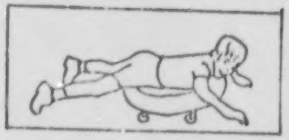
PLACEMENT LADDER:
An aid in developing walking balance and placement. Steps are of various patterns requiring proper foot placement and eye-foot coordination.



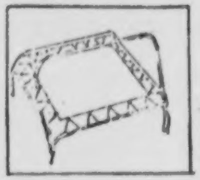
ROCKER BALANCE SQUARE:
Useful for balance activities. May be used in a sitting, kneeling or standing position.



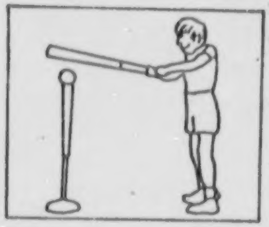
ROUND SCOOTER BOARD:
This board allows swivelling and rotating motions. Can be used for a variety of activities.



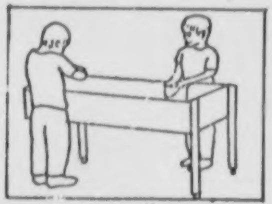
SAFETY BOUNCER:
Provides additional support to children just beginning to use a trampoline or who require aid in standing.



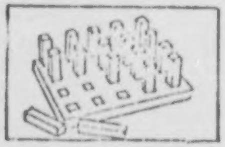
SAFETY PLAY BATTING SET:
An aid in developing eye-hand coordination. Bat and ball are plastic allowing use both indoors and out.



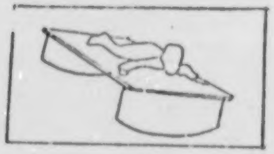
SAND AND WATER TABLE:
Useful for developing sensory-motor awareness and tactile experiences.



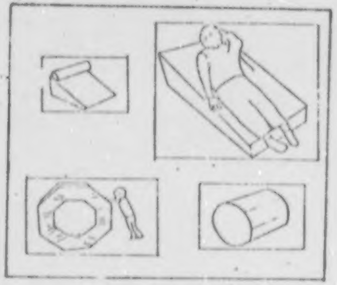
SQUARE PEG BOARD:
Pegs are easier to handle and more difficult to place in holes. A variety of peg boards are available.



VESTIBULAR BOARD:
An aid in developing balance. Individuals can use the board while assuming a lying, sitting, or kneeling position.

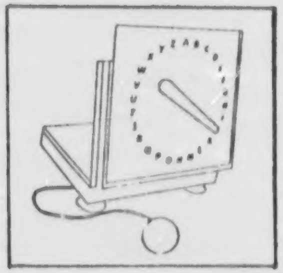


WEDGES, CYLINDERS, POSITIONERS:
These foam padded shapes aid in positioning individuals as well as being useful for a variety of activities.



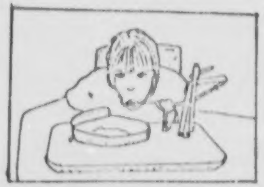
THE COMMUNICATOR:

Battery operated. Built into a standard attache case. Suction cups hold it securely to a flat non-porous surface. Operated by a press switch which activates the selector pointer. The pointer moves when the switch is pressed and stops when it is released. Comes with a variety of interchangeable program boards.



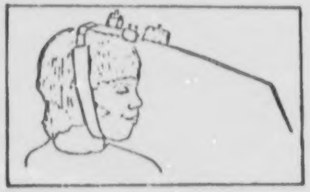
FEEDING MECHANISM:

An adaptive eating device for the individual who lacks the motion necessary to successfully accomplish eating. It eliminates the need for some basic components of eating such as grasp, stabilization of the wrist, and forearm pronation.



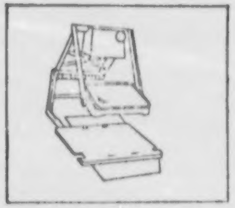
HEAD POINTER:

Communication aid for non-verbal individuals. Fits onto the head with a rod that protrudes from the center enabling one to point.

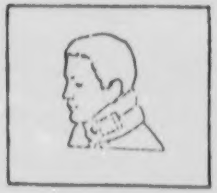


OPTISCOPE:

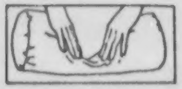
An Illumination enlarger system. Illuminates and enlarges any standard print or image.



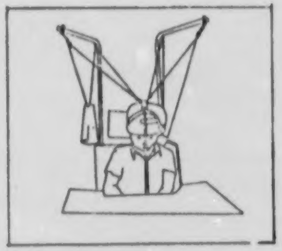
CERVICAL COLLAR:
Supports the head and limits the head and neck in movement.



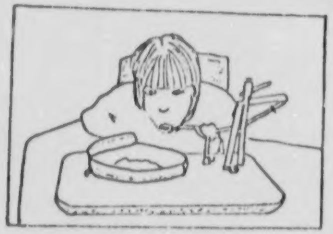
CERVICAL CONTOUR PILLOW:
Designed to change the weight distribution of the head and neck when lying on the back. Places more weight on the (posterior) outside surface of the neck.



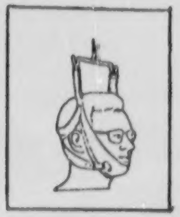
ENABLER:
A basic communication system for physically handicapped individuals. System consists of the basic headgear and attachment accessories which enable one to point, sort, type, write and accomplish other communicative tasks.



FEEDING MECHANISM/HEAD CONTROL:
Assistive device for feeding which is controlled by the head and/or oral cavity (mouth).

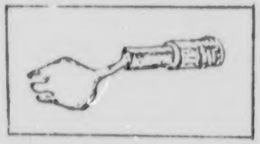


HEAD SUPPORT FOR CHAIR:
Designed to give the individual more comfortable traction while providing better distribution of traction forces. Shaped to eliminate chin pressure.

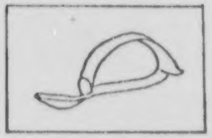


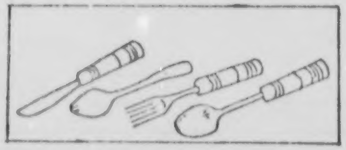
LATERAL HEAD SUPPORTS:
Designed to support and protect the head from sideward displacement. Easily clamps onto headrest or chairback of a wheelchair.

ADJUSTABLE SWIVEL UTENSILS:
Eating utensils with a swivel mechanism which keeps them level when wrist or finger motion is absent. Two stops can be adjusted to regulate the amount of swivel in either direction. Flat handle fits into a utensil holder.



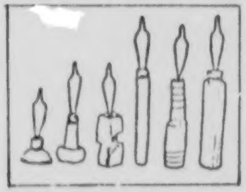
ADJUSTABLE UTENSIL HOLDER:
Holds a spoon or fork securely while making a snug fit on the hand. Useful for individuals without a substantial grasp.



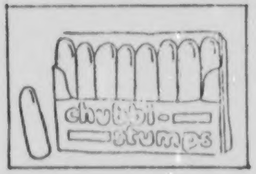


BUILT-UP HANDLE UTENSILS:
The built-ups have a plastic core and a soft foam padded handle.

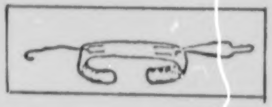
BUTTON HOOKS:
Button hooks come in a variety of models. The double-ended model is for bilateral amputees and accomodates various sized buttons; square wooden model for amputees who have problems with the handle turning in their hooks; and the grooved model for buttoning functional arm cuffs.



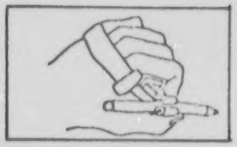
CHUBBI STUMP CRAYONS:
Wax crayons made for young children or individuals with severe fine motor problems. They are short for easy control and thick for natural grip. Their shape keeps them from rolling on a slant top desk.



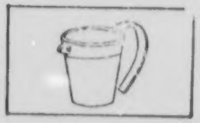
COMBINATION BUTTON-ZIPPER PULL:
A combination hook and zipper pull in one unit. Cuff bends to fit the hand.



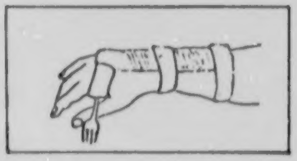
CUFF AND STRAP PENCIL HOLDER:
Designed as an aid to writing grasp. Helps hold the pencil at correct writing angle.



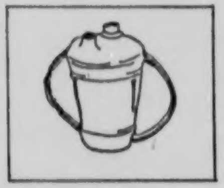
DETACHABLE HANDLES FOR DRINKING GLASSES:
Holders fasten to glass providing a handle that is strong yet can be bent to fit the individual's hand.



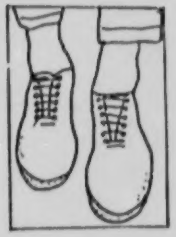
DORSAL FEEDING SPLINT:
Designed to support the palm, wrist, and forearm of an individual who has weak or no wrist extension and flexion and is unable to grasp. Velcro loops allow utensil holder to be angled and positioned.



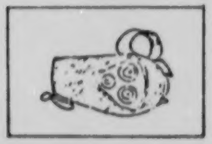
DRINKING CUPS WITH MODIFIED HANDLES:
Made for individuals with extreme weakness or tremors that cause spillage. Soft plastic handles provide an easy grip.



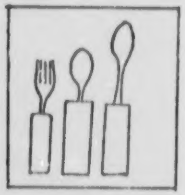
ELASTIC SHOE LACES:
These laces fit all shoes and enable the individual to slip shoes on and off like slippers.



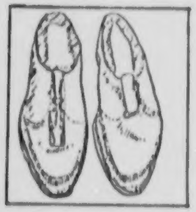
ELECTRIC RAZOR HOLDER:
Useful for individuals with weak grasp. Designed to fit some brand-name razors.



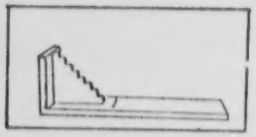
EXPANDED HANDLE UTENSILS:
A built-up handle that can be shaped to the desired size.



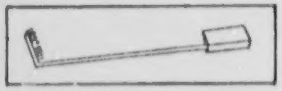
FASTENING SHOES:
A simple way to fasten shoes. Flip to open and snap to close. Snaps can be easily installed.



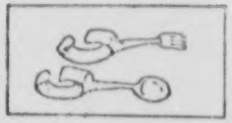
FINGER BOARD:
Stairway of eight steps mounted on a base. Used as an exerciser of finger joints.



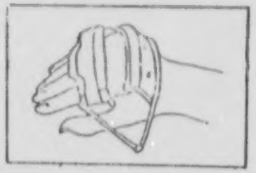
HAIRBRUSH ON A HANDLE:
Nylon bristle brush mounted on an angle arm with a 20" long T-bar handle.



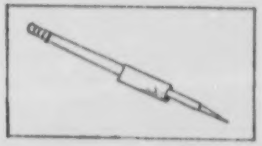
HORIZONTAL PALM SELF-HANDLE UTENSIL:
Utensils with hand-grips that can be easily bent to individual hand size. Handle crosses the palm horizontally.



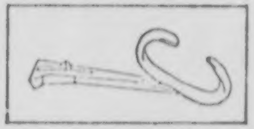
KNUCKLE BENDER SPLINT:
May be used to gradually position the joint in flexion. Can be used after treatment or to allow more and more extension of the joint as muscles improve. Splints are also available for individual fingers.



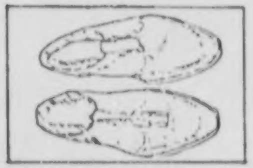
PEN AND PENCIL GRIPS:
Aids the individual with weak grasp. Grip is slipped over the pencil.



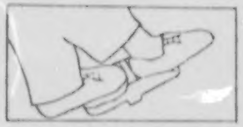
SAFETY RAZOR HOLDER:
A variety available according to individual need. The Quad-Quip razor holder is helpful to one who lacks fingers. Handle kit for razor supplies an extended handle.



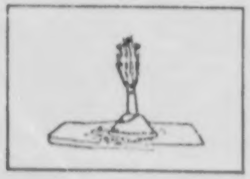
SHOE CLOSURE DEVICE:
Device which converts eyelet shoes to a single closure mechanism.



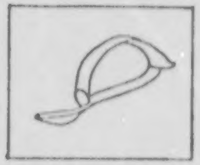
SHOE REMOVER:
Assists individuals who cannot bend to remove their shoes. Heel is inserted into the notch and pulled up while holding the base down with the other foot.



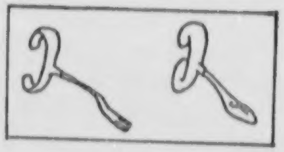
SUCTION MOUNTED BOTTLE BRUSH:
Usefoul for individuals with one hand. The brush mounts to a non-pourous surface.



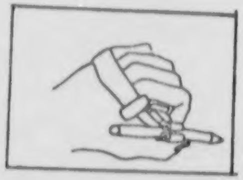
UTENSIL HOLDERS:
Aids the individual with weak grasp. Slips over the hand and attaches to utensil. Length of utensil can be varied by how far it is slid into the holder.



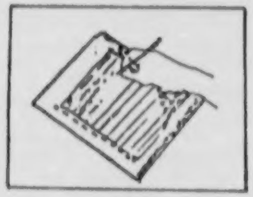
VERTICAL PALM SELF-HANDLE UTENSIL:
Utensil with a hand-grip which can be easily bent to individual hand size. The handle has been bent 90° to allow the hand in mid-position to function in a table-to mouth pattern.



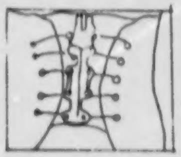
WIRE, WOOD, OR PLASTIC PEN HOLDERS:
A pencil or pen is inserted into the holder which is then manipulated with the entire hand. Aids the individual with gross grasp.



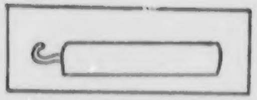
WRITING LINE GUIDE:
Helps establish position of lines. Lines are formed of black round plastic that let the pencil move freely if it goes off the line.



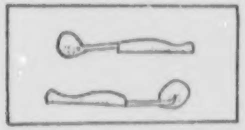
ZIPPER-TYPE FASTENER FOR SHOES:
This device will enable an individual to close his shoes with one hand.
Useful for individuals with limited motion in upper extremities and fingers.



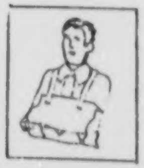
ZIPPER PULL:
Useful for individuals who have difficulty in holding onto zipper tabs. Available in hook or ring style.



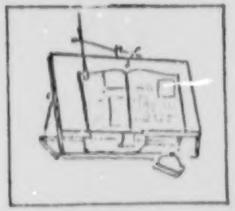
ANGLED FORK OR SPOON:
Stainless steel fork or with angled bowls requiring less movement of the and hand.



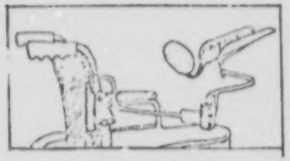
ARM SLING:
Supports the arm and restricts its movement.



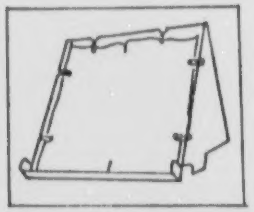
AUTOMATIC PAGE TURNER:
Holds books up to 2" thick and magazines from Reader's Digest to Life. Activated with hand, foot, chin, etc. Portable.



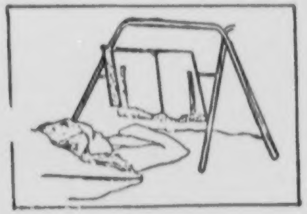
BALL BEARING FEEDER:
This device is intended for application by trained personnel only. Useful for individuals with severe shoulder girdle weakness. Supports the weight of the arm on ball bearings to increase their function. Can be clamped securely to most tubular type wheelchairs.



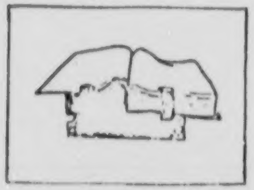
BOOKHOLDER:
Mounts on fixed 60° angle suction cup base for use on flat surfaces. Angle of the bookholder is not adjustable.



BOOKHOLDER/BOOK BUTLER:
A sturdy lightweight book holder which holds books at any angle while sitting or in a supine position.

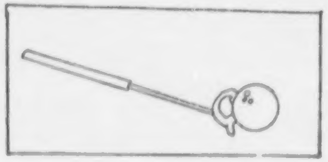


BOOKHOLDER/MILLER:
Spring-loaded levers keep pages level. As thickness of book varies the springs take up the difference. Adjustable legs give angles from flat to nearly vertical.

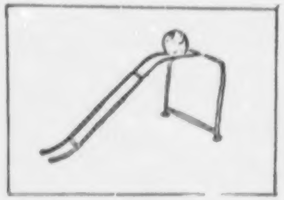


BOOKHOLDER/WIRE FRAME:
A folding wire frame with a bracket for large books and magazines. Folds flat when not in use.

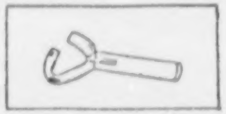
BOWLING BALL PUSHER:
A device used for pushing and guiding a bowling ball down the alley. May be used from a wheelchair or standing position. Extension handle lengthens for use, shortens for transporting.



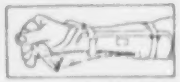
BOWLING RAMP:
Ideal for persons with little or no use of their arms. The bowling ramp is placed in front of the lane and an assistant places the ball on the frame. Only a slight push is needed.



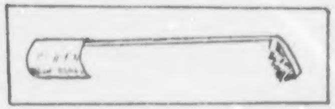
CAR DOOR OPENER:
Designed to assist the disabled or arthritic individual in the manipulation of a push button type automobile handle.



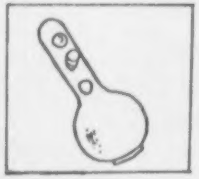
COCK-UP SPLINT:
Supports the hand when wrist extensors are weak. Attaches to front of feeder arm trough. Available in right or left models.



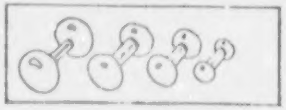
COMB AND HAIRBRUSH ON EXTENDED HANDLE:
A long-handled comb and hairbrush that have a positive lock setting at the joint. Length is 20". Useful for individuals with limited range of motion.



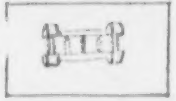
DIGITATOR HAND EXERCISER:
A soft bulb-shaped device with three pop-out buttons. When squeezed, buttons will pop out according to the amount of pressure being exerted.



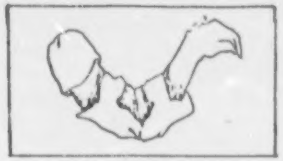
DUMBBELLS:
Exercise devices available in various weights.



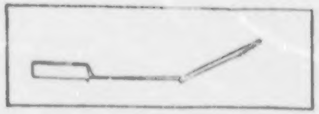
DUMBBELL HAND EXERCISER:
Aids in developing grasp. A squeeze device with tension provided through springs.



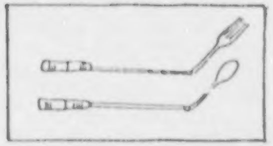
ELBOW PROTECTOR:
Prevents irritation from rubbing. Constructed of pliable plastic and foam.



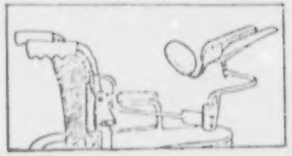
EXTENSION TOOTHBRUSH:
A long-handled toothbrush with a positive lock. Useful for individuals with limited range of motion.



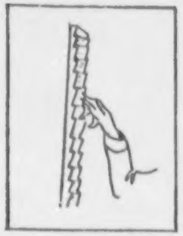
EXTENSION HANDLED UTENSILS:
A long spoon or fork for individuals with limited range of motion. Choice of handles include vinyl-tipped steel, expandable handle, and plastic sure-grip . An aluminum wing nut holds the utensil securely.



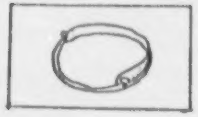
FEEDER DEVICE:
Mechanical device used to increase the functional ability of a severely involved individual by supporting the frail or weakened forearm and shoulder in a comfortable and functional position.



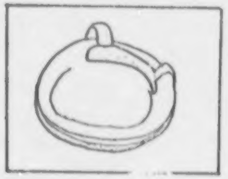
FINGER/SHOULDER LADDER:
A wooden ladder used to increase range of motion in the shoulder. Individual starts at lowest point and "walks up" the ladder with fingers.



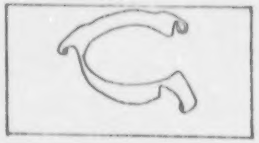
FOOD GUARD:
Aids in preventing spillage of food. Three metal clips hold the guard to the side of the plate. For 9-11" plates.



FOOD GUARD/LAZY SUSAN:
A food guard with a plastic base that allows the plate to turn while the guard remains stationary.

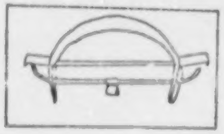


FOOD GUARD/PLASTIC:
A food guard made of polythylene plastic.



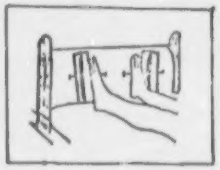
FOOD GUARD/SURE GRIP:

Constructed with a rubber fastener that fits between the plate and the table to prevent the plate from sliding.



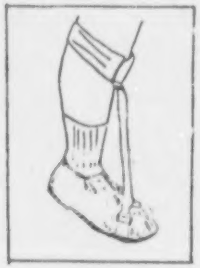
FOOT BOARD:

Acts as a bed cradle keeping bedding off the individual's feet. Fits any standard hospital bed. Helps prevent and/or correct foot drop and foot rotation. Board may be tilted.



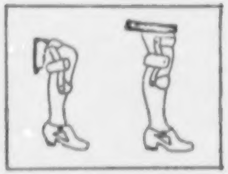
FOOT DROP DEVICE/CALF-BASE TOE LIFTER:

Aids in lifting the shoe of an individual with foot drop. One size fits all shoes right and left.



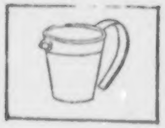
GENU RECURVATUM SUPPORT:

Provides lightweight yet sturdy support for genu recurvatum. Permits full functional knee flexion when sitting with no posterior pressure discomfort. Three adjustment positions allow for individual fitting to the degree of extension desired.



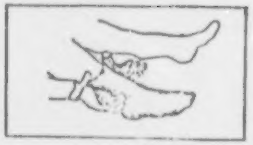
GLASS HOLDER:

Rubber lined aluminum holder fits any size glass. Handle is foam rubber lined and can be easily molded to fit any shape.



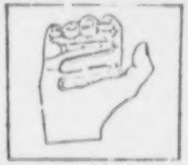
GRASPING MITT FOR SOCKS:

Assists individual in putting on socks. Rubber-faced material grips the sock and draws it over the foot. Velcro adjustment at fingers and wrist.



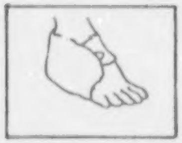
GRIP EXERCISER:

A spring device held in the palm of the hand and squeezed. Aids in strengthening hand muscles.

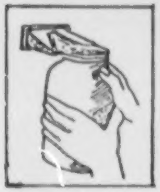


HEEL PROTECTOR:

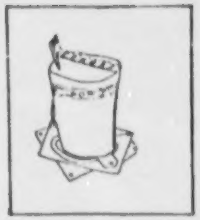
Prevents irritation from rubbing. Allows movement of feet with comfort and freedom. Constructed of pliable plastic, lined with polyether foam.



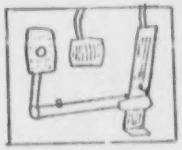
JAR OPENER:
Slip the unbreakable friction belt over any ½" to 3¼" diameter cap. Belt automatically adjusts to and loosens cap in one tug.



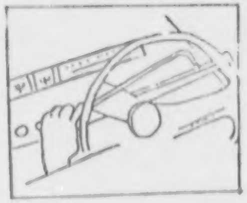
LAZY-SUSAN GLASS AND STRAW HOLDER:
Glass and straw holder has rubber feet and a tip-proof base. Swivels so that straw is moved out of the way when eating.



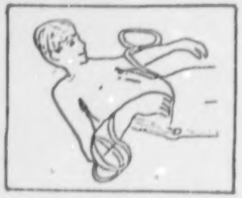
LEFT FOOT ACCELERATOR:
Available for most car models. Disengages when someone else drives the car. Transferable from car to car. Allows the individual to feed gas with the left foot.



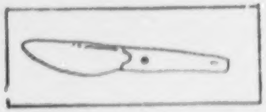
LEFT HAND SHIFT LEVER:
For individuals with limited right arm function. Clamps to existing drive selector converting shift to left hand use.



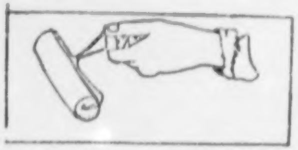
LOOP TROUSER PULL:
Assists individual with limited range of movement in putting on trousers. A plastic hook is slipped through the webbing loops and trousers are placed over feet. Pulling and rolling from side to side allows trousers to move up. The webbing loops stay in a round position so the arm is easily slipped from one loop to the next.



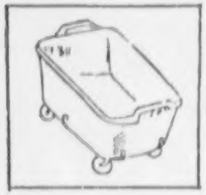
MEAT CUTTER KNIFE:
A knife with a long curved blade for cutting meat with one hand.



ONE-HANDED ROLLING PIN:
A rolling pin with a center grip handle for use with one hand. Two wooden rollers for pizza and pastry dough.

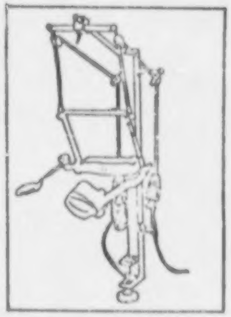


PAIL CADDY
A large dishpan with handles that has been mounted on a frame with swivel casters. The frame is permanently fastened to the pail.

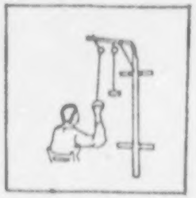


PAPER INSERT AID:
Enables a person with limited reach or dexterity to place paper into a typewriter. The mouth, head, or neck may be used to operate the device.

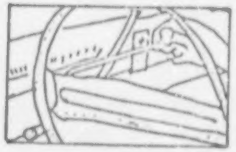
PULLEY EATER:
An aid to independent eating. Using counterbalances and adjustable tension mechanisms, the pulley eater assists in activity where the muscles are too weak to succeed against gravity. Eliminates the need for grasp, stabilization of the wrist and forearm pronation.



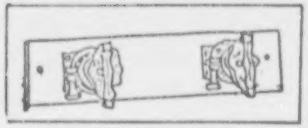
PULLEY WEIGHT SYSTEM:
A device to increase strength in the arms, shoulders, and trunk. The device is mounted on a wall and operated by pulling the handles that attach to the weights.



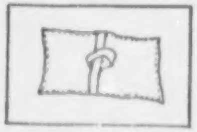
RIGHT HAND TURN SIGNAL LEVER:
For individuals with limited left arm function. Clamps to existing directional signal so the right hand can signal turns.



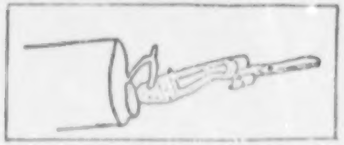
ROTARY WRIST SUPINATOR:
Strengthens wrists and forearms. Two friction adjustable grips are mounted on the wall and turned.



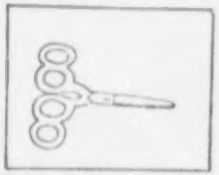
SANDBAG:
Facilitates the exercise process by providing more resistance. Bags can be firmly secured to the extremity being treated.

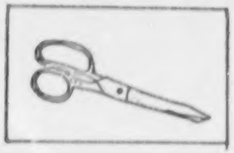


SCISSORS/AMPUTEE:
Scissors for use in a hook. Double guides on each handle keep scissors from twisting.

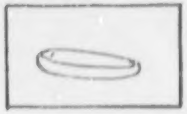


SCISSORS/FOUR-LOOPED:
Allows teachers to place their hands over the student's to reinforce the pattern of motion. Used for training.

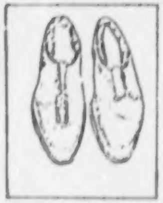




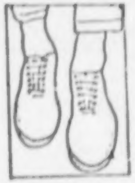
SCISSORS/LEFT HAND:
Bent handle style. Length is 7½".



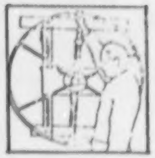
SCOOP DISH:
Constructed with sloping front and vertical back to hold food for an individual with one hand.



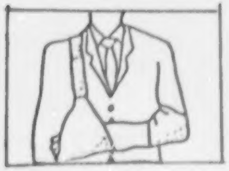
SHOE AID FASTENER:
A metal snap closure that can be operated with the hand or the heel of the shoe on the other foot. Aids individuals with limited range of motion or uncoordination.



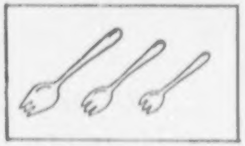
SHOE AID/TYLASTIC LACES:
Black elastic shoe laces that allow the shoe to be slipped on without tying or untying the laces.



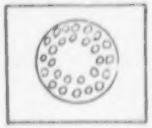
SHOULDER WHEEL"
Aids in increasing range of motion. Hand grip is turned, rotating wheel.



SLINGS:
Supports the upper extremity (forearm and elbow) by use of an overneck suspension system.

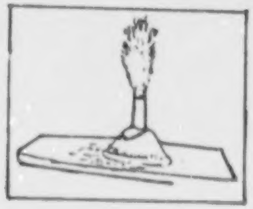


SPORKS:
A combination spoon and fork. The tines help in gathering the food onto the bowl. The bowl of the spoon holds semi-liquids and semi-solid food better than a fork.



SUCTION HOLDERS:
Tiny suction cups on each side of the soft rubber base provide a double acting grip to anchor dishes, glasses, bowls, etc. Three inches in diameter by 3/8".

SUCTION MOUNTED BRUSH:
Useful for an individual with one hand or a weak grasp. The suction cup on the bottom of the brush hold it securely to a non-porous surface.



SWIVEL HANDLE UTENSILS:
Resembles an ordinary utensil but has a Teflon bearing assembly beneath the handle. Useful for individuals who need a minimum of dip from handle to spoon. Handle is built-up.

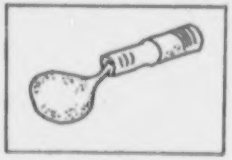
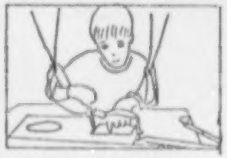
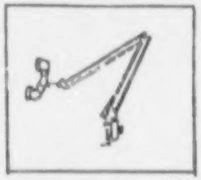


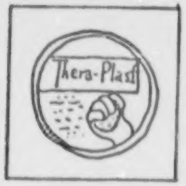
TABLE WRITER:
Designed for the individual who lacks functional grasp, finger control, movement of arm and forearm, and/or has uncontrollable involuntary movements of the upper extremities.



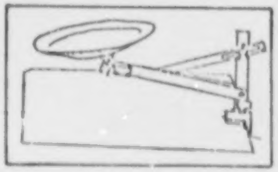


TELEPHONE RECEIVER HOLDER:
Flexible arm holds hand set so it is not necessary to use the hands.

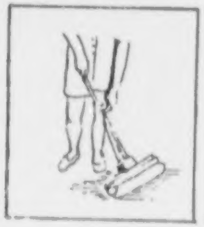
THERA-PLAST:
A modern therapeutic aid for strengthening fingers, hands, wrists, and forearms. Thera-Plast can be pulled, bounced, manipulated or worked in the mass. Specially treated for use during hydrotherapy and thermotherapy.



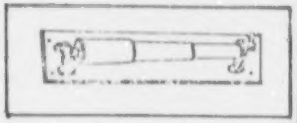
UNIVERSAL PLATE POSITIONER:
First developed for use with the pulley eater to afford proper positioning of the plate in a variety of levels and attitudes on a desk or lap board. Durable suction cup will attach to most smooth flat bottomed plates or dishes. The positioner adjusts 360° horizontally and up to 10° vertically.



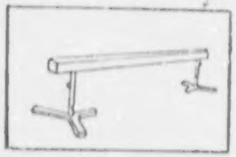
WET MOP/SELF-WRINGING:
Using two hands, an individual holds the mop full of clean water over the floor. Pulling the lever puts the right amount of water on the floor. Dirty water is absorbed through the foam pads and is easily squeezed out by operating the wringing lever.



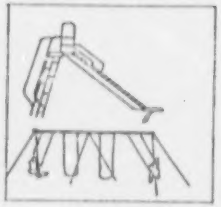
WRIST ROLL:
Multi-diameter bars that attach to the wall horizontally. Designed to increase flexion and extension of the wrist and forearm.



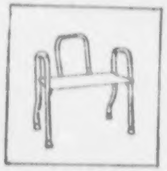
BALANCE BEAM:
Provides an opportunity for balance activity. Can be used for directionality, laterality, crossing the midline, body awareness, and motor training.



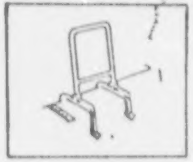
BALANCE AND COORDINATION EQUIPMENT:
Play equipment that develops balance and coordination skills through the use of obstacle courses and climbing equipment.



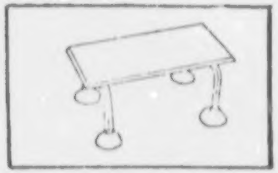
BATHTUB BENCH WITH BACKREST:
A bathtub seat and backrest that fits into the tub. Made of heavy-duty steel, coated in white vinyl plastic.



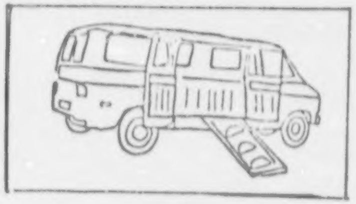
BATHTUB RAILS:
Provides safe hand grips at the right height giving additional support to an individual going in and out of the tub.



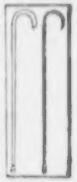
BATHTUB/SHOWER BENCH:
A bench that can be used in the tub for bathing. Made of chrome steel with slide-proof suction cups.



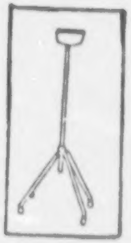
BUS RAMP:
A strong steel ramp with wheel guides for safety. Easily installed with no modifications to vehicle. Folds in half for storage.



CANE:
A walking aid available in all lengths.

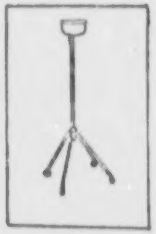


CANE/FOUR-LEGGED BASE:
Designed for use with either right or left hand. Adjusts from 30"to 37" with eight 1" adjustments. Four legs provide more stability.



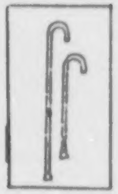
CANE/GLIDER:

A cane with a wide base. Rear legs have two attached wheels for smoother support.



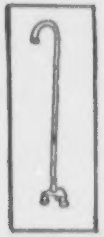
CANE/TELESCOPIC:

A can that adjusts from 30" to 38". Telescopes to 23" for storage. Has an external safety lock which eliminates wobble when cane is fully extended.



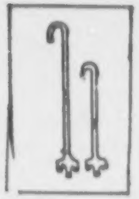
CANE/THREE-LEGGED WITH SWIVEL JOINT BASE:

Offers a larger surface of support while absorbing extraneous body movements.



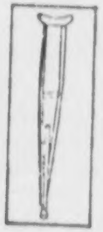
CANE/THREE-LEGGED TELESCOPIC:

A telescopic cane with three legs for more stability. Available with crook or offset handles.



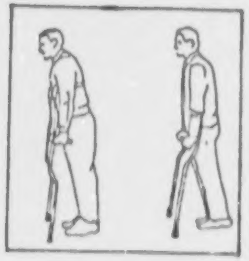
CRUTCHES:

Many varieties available depending on individual need. Offers support to the individual in walking.



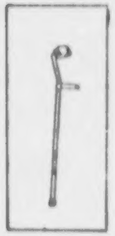
CRUTCH/AXILLARY-ORTHOPEDIC:

An axillary crutch with one shaft. This lessens the possibility of slippage. Adjustable handgrips and underarm supports.



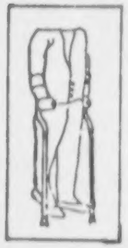
CRUTCH/FOREARM:

A crutch that transfers weight through the hands by use of a forearm cuff. Adjustable in both shaft and forearm.

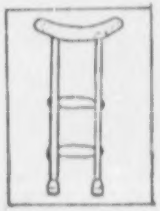


CRUTCH/FOREARM-ORTHOPEDIC:

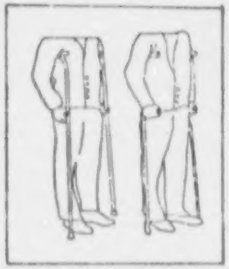
Similar to the forearm crutch with an axillary shaft for greater stability.



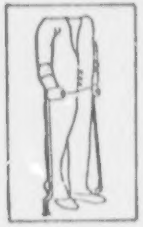
CRUTCH/MAT:
For pre-walking exercises on gym mats. Each crutch has two safety rubber tips.



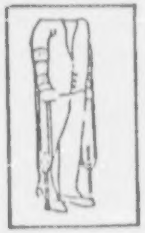
CRUTCH/OFFSET:
An axillary crutch that redistributes the weight according to the position of the handgrip.



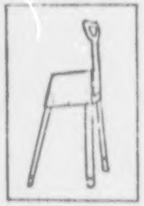
CRUTCH/OFFSET-FOREARM:
A forearm crutch that redistributes weight through a bend in the lower shaft.



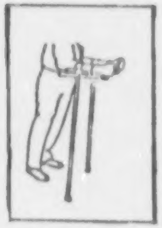
CRUTCH/TRICEP:
A standard crutch with cuffs for the arm to assist in keeping the elbow straight.



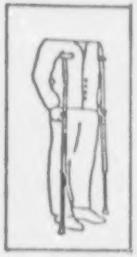
CRUTCH/TRIPOD:
A three-legged crutch providing a wider base of support.



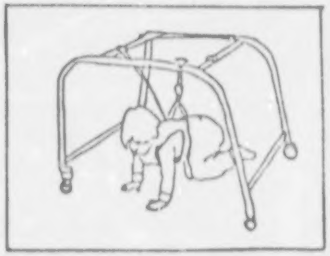
CRUTCH/TROUGH-FOREARM:
A crutch that distributes weight along the forearm through the use of a trough that extends out from the shaft.



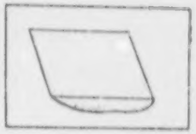
CRUTCH/UNDERARM-TELESCOPIC:
An axillary crutch that quickly and easily adjusts to any height.



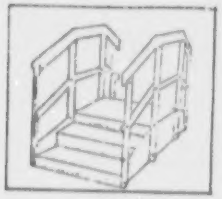
DEVELOPMENTAL SUSPENSION CRAWLER:
The suspended crawler is a supportive aid for infants and pre-schoolers who are ready physically for and who would benefit from crawling activities. Child is placed in a body harness that is suspended overhead supporting the child in crawling position.



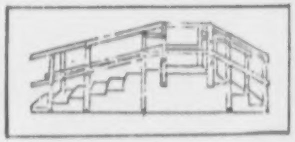
DYNA-BALANCE ROCKING PLATFORM:
Standard exercises and balance activities can be done on the board as well as exercises in sitting, kneeling, and hand to knee positions. Facilitates development of balance and other gross motor skills.



EXERCISE STAIRCASE/STRAIGHT:
May be positioned along any wall or in the center of ambulation area. Rubber matted stairs and platform offer additional security.

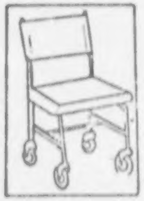


EXERCISE STAIRCASE/CONVERTIBLE:
Designed to simulate stairs the handicapped individual will encounter. Stairs provide a graduated training program for 4" to 10" stairs. Handrails.

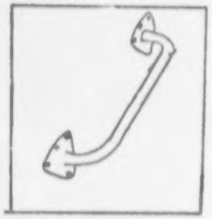


FIXED RECLINE CHAIR:
Designed to accomodate the individual who cannot sit upright. Fixed recline of seat and back is 30°. Rear wheels provide easy transportation.

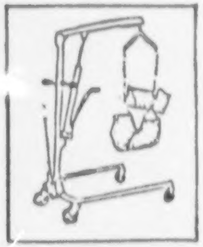
GLIDE-ABOUT CHAIR:
A chair with wheels at the base of the legs for easy transportation of a disabled individual.



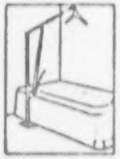
GRAB BARS:
These bars give more security to individuals who may be ascending and descending or as a guide rail in the bathroom.



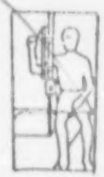
LIFTS:
A portable lifting device which transfers individuals from one location to another. There are many lifts listed in this resource.



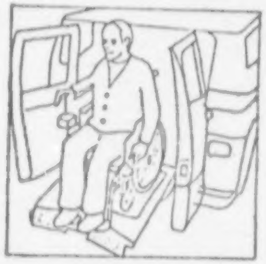
LIFT/BATHROOM:
A bathtub lifter that adjusts to tubs up to 18" high. Base converts quickly to right or left hand operation. Cannot be used on rolled rim tubs.



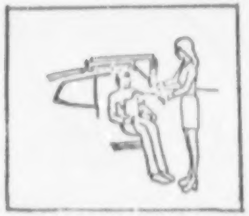
LIFT/BATHROOM CHAIR:
This lift attaches to the side of the tub. Has an open side making it easy to slide from a wheelchair to the lift's seat. Various power sources available.



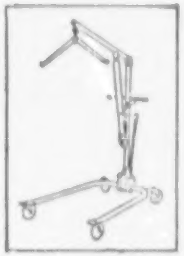
LIFT/BUS:
A platform that operates hydraulically raising a wheelchair individual into a bus.



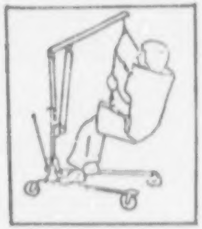
LIFT/CAR-TOP:
Mounts on top of the car and enables a disabled person's attendant to lift him out of his chair and place him in the car seat. No change is made to the car, no holes, no brackets.



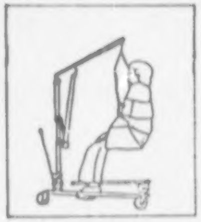
LIFT/HOYER:
An adjustable lift that can open around a 34" chair. Permits close access to a bed.



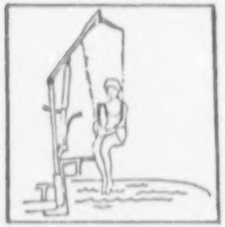
LIFT/MOBILE COLLAPSIBLE:
A portable lift that collapses easily for storage. Lift is on casters for easy transporting from one location to another.



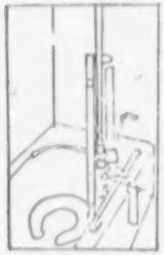
LIFT/MOBILE WITH ADJUSTABLE BASE:
Makes in and out of car movement easy. Can be used for wheelchair to bed, chair, or car transfer. Folds conveniently for storage in car trunk.



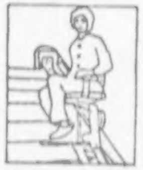
LIFT/POOL:
Designed specifically for the swimming pool. Lifter range is 62".



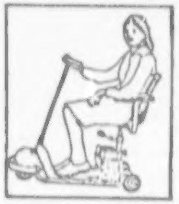
LIFT/PORTABLE IN-TUB HYDRAULIC:
Utilizes normal water pressure from tap to operate hydraulic cylinder. Water from spout fills cylinder and elevates seat. Control valve releases water from cylinder to lower seat.



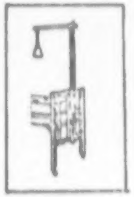
LIFT/STAIR:
Easily lifts individual up and down stairways. A chair and rail attach to wall at the side of the stairs. Operates electrically.



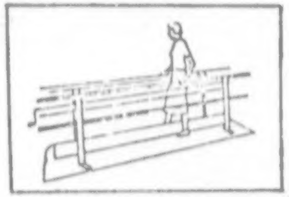
MOTORIZED CART:
Useful for individuals who have difficulty walking or who tire easily. Front wheel drive has two forward and two reverse speeds at up to 4 mph. Totally hand controlled.



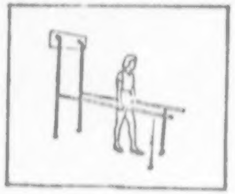
OVERHEAD TRAPEZE AID:
Enables individual to shift position or raise himself for use of bedpan. Can be adjusted and raised and lowered to fit individual need.



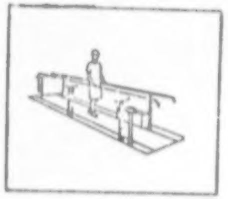
PARALLEL BARS/CRANK-OPERATED:
10 feet long with inclines at each end. Bars require only one person to adjust them and may be adjusted by a person in a wheelchair.



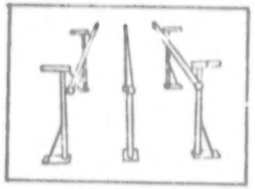
PARALLEL BARS/FOLDING:
Used for walking exercises. When folded, they only extend 8" from the wall.



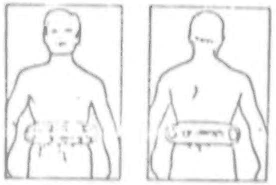
PARALLEL BARS/MOTORIZED:
Mounted on a platform fitted with two sets of stainless steel handrails that are adjustable. These bars will accomodate any size individual from a small child to an adult. Motorized adjustments.



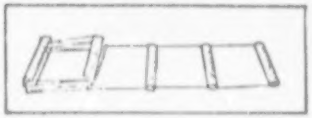
PARALLEL BARS/TRIPLE:
Floor mounted. Includes height-adjustable center bar which doubles the case load potential with minimum additional space.



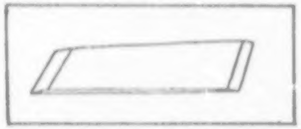
SAFETY WALKING BELT:
To guide and support a weak individual in walking. Belt is worn around the waist with guide ropes extending from the sides. Guides are held by therapists for support.



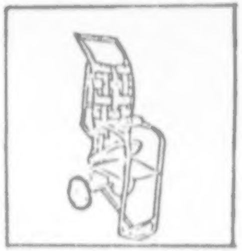
STRIDE GUIDE:
Useful with parallel bars for teaching children to lift the feet and take rhythmic steps. A mat with rounded bars positioned 10-14" apart act as guides for foot placement.



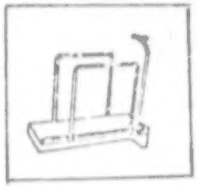
TRANSFER BOARD:
A slant board that aids the individual in sliding from one surface to another.



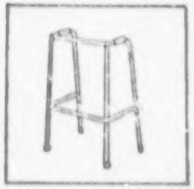
TRANSPORTER CHAIR:
A lightweight wheelchair used for transporting disabled individuals and can also serve as a second wheelchair. Especially suitable for outdoor use and can be easily manipulated over curbs and stairs.



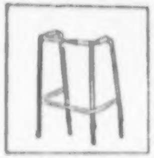
TREADMILL:
An indoor walking exerciser with adjustable handrails. Supporting strap provides the individual with proper support.



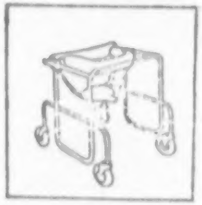
WALKERS:
Ambulatory aids for individuals with walking problems. Provides a base of support.



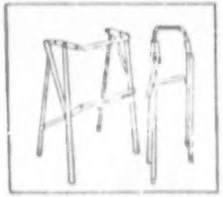
WALKER/ADJUSTABLE:
Completely equipped with white plastic handgrips. Each leg is reinforced with plastic glides under the rubber tips. This model comes equipped with four adjustable telescoping legs that permit height adjustments.



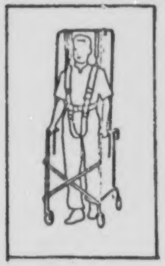
WALKER/CHILDREN'S:
A seat on casters that encourages the child to use his legs.



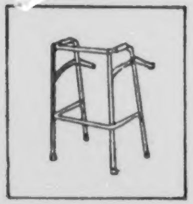
WALKER/FOLDING:
A standard walker that collapses for easy storage.



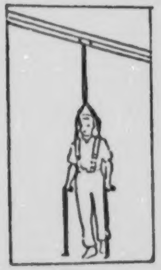
WALKER/FULL BODY SUSPENSION:
Permits suspension of entire body weight encouraging use of the lower extremities.



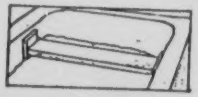
WALKER/MULTIPURPOSE STAIR:
Assists individuals going up or down stairs as well as providing a level ground walking aid.



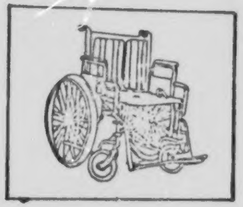
WALKER/OVERHEAD SUSPENSION:
Aids in holding a disabled individual in a vertical position by means of a shoulder harness. Harness is attached overhead to fully suspend the individual and moves forward as he walks.



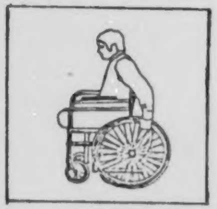
WEDGE GRIP SEAT FOR BATHTUB:
A portable seat that fits securely in the tub. Easily removed.



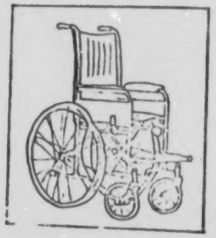
WHEELCHAIR:
Wheelchairs are versatile maneuverable vehicles which can be used by individuals who have difficulty walking. The types are numerous and vary according to individual need.



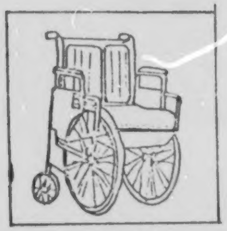
WHEELCHAIR/AMPUTEE:
Amputee chairs are designed for people who have single or double lower extremity amputations. The rear wheels are set back 1½" to compensate for the transfer of weight due to the loss of limbs and to maintain proper chair balance. Available in all arm styles.



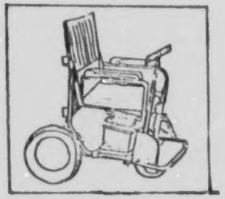
WHEELCHAIR/CHILDREN'S:
A child's chair is specially designed to "grow" with the child. When the child outgrows the chair, a simple upholstery conversion will increase the seat size. The low model permits the child to get in and out of the chair with minimal assistance and be at eye level with other children.



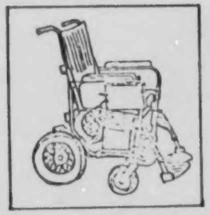
WHEELCHAIR/FRONT-WHEEL PROPELLED:
Aids individuals with limited range of motion in the arms. The wheels are positioned towards the front of the chair.



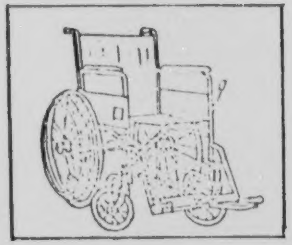
WHEELCHAIR/MONODRIVE MOTORIZED:
A motorized chair controlled by a handgrip. The grip controls both power and direction.



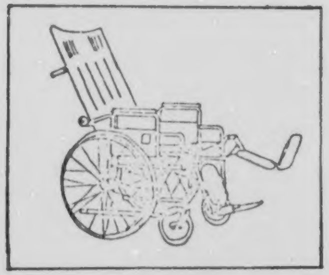
WHEELCHAIR/MOTORIZED:
A battery-operated chair that is operated by a lever on the arm rest. Useful for individuals with limited arm function.



WHEELCHAIR/ONE-ARM DRIVE:
Resembles the standard chair. The wheel on the individual's functional side has two rims that can be rotated together for power. Turning is accomplished by rotating only one rim.



WHEELCHAIR/RECLINING:
The back of this chair reclines for individuals who need to be positioned this way to operate the chair.

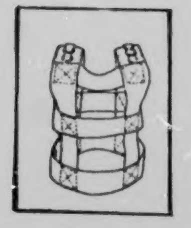


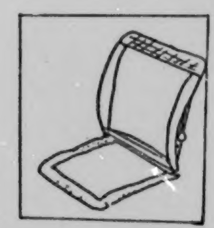
ACHIEVER SEAT:

The achiever seat improves seating posture and body support for children up to 45 pounds. Has six back angle adjustments. Fits into tiny wheelchairs or on the stainless base with non-skid glides or roll-free casters.

BODY HARNESS:

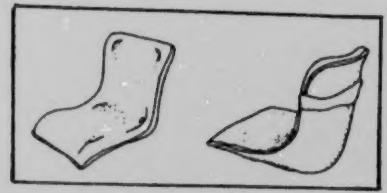
Offers support to the individual who has poor trunk and head stabilization. Facilitates proper body alignment. Made from webbing with wide Velcro closings for adjustment. Other body harnesses are the pelvic harness, auto safety harness, and the upper torso harness.





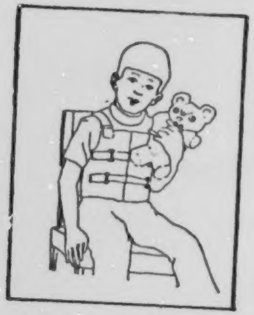
CAR BACK SUPPORT:

An adjustable car seat providing firm and proper back support.



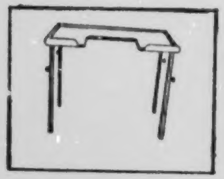
CONTOURPEDIC SEAT:

This seat is individually fitted to provide multi-directional support from the thigh through the lower and middle back.



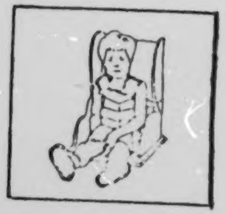
CONTROL JACKET:

Vest-shaped device made of soft rubber and covered with cloth. Uses a quick-release mechanism which requires one-half the mechanism to be mounted to the individual's chair and the other portion is contained in the back of the vest. Provides built-in stabilization in all planes (vertical, horizontal, and front-to-back).



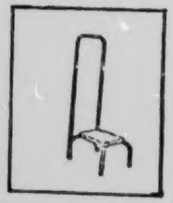
CUT OUT TABLE:

Adapted for both sitting and standing positions and can be used with standing stabilizers. Has adjustable offset legs; by offsetting the legs, the individual is placed in the middle of the table offering maximum security.



FLOOR SITTER:

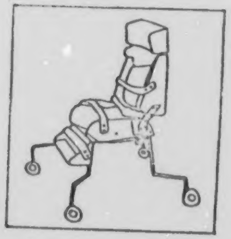
A contoured seat which provides rigid support to a child sitting on the floor.



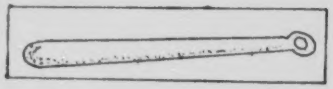
FOOT STOOL WITH HANDRAILS:

A foot stool furnished with handrails for individuals requiring added support in standing.

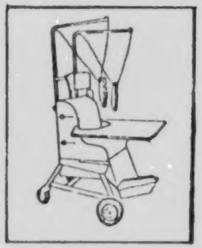
GROWTH GUIDANCE CHAIR:
Adaptable support structure designed to provide postural control to individuals with impaired neuromuscular systems.



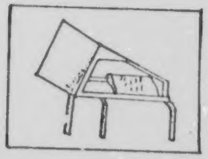
LONG HANDLED SHOE HORN:
A shoe horn on a long handle that aids individuals who have problems bending.



MANCINO LEARNING CENTER:
A chair that accomodates a child no matter how severe the handicap. Designed for the child who lacks adequate muscle control to sit independently in a regular chair. Can be used at home or in the classroom. Easily adjustable.

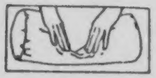


OVERBED BOOK HOLDER:
A platform which holds a book assisting a person who is in a supine position or hwo has limited strength in his arms.

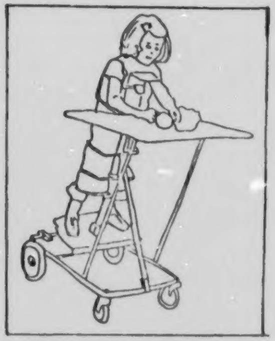


PELVIC SUPPORT HARNESS:
see body harness

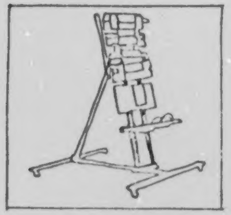
PILLOW:
A soft pillow contructed to help back and cervical spine pain.

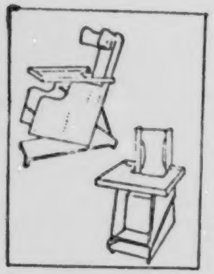


PRONE BOARD WITH ADJUSTABLE DESK:
Enables an individual to be placed in a functional upright position. Easily adjustable.

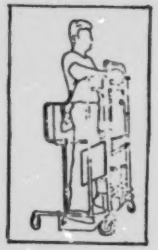


PRONE STANDER:
A mobile unit designed to support an individual in a standing position.

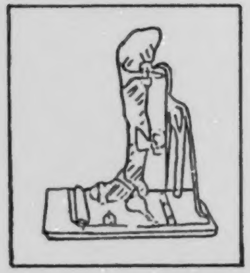




RELAXATION CHAIR:
A chair that reclines to a 63° angle. Equipped with an adjustable foot rest and detachable tray that adjusts horizontally to conform with the angle of the chair.

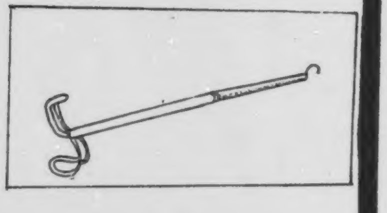


STAND AID:
A device used to secure an individual in a standing position.

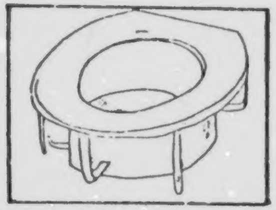


STANDING STABILIZER:
Supports the individual in a standing position. Upright bars are adjustable in height to accomodate individuals of various sizes and to permit varying the location of leg cuffs. Individual foot boards adjust for foot rotation as well as anterior-posterior positions.

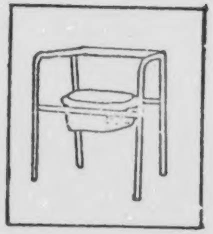
TROUSER AID/DRESSING STICK:
A long handled stick with two hooks on the end used for pulling on clothes. The large hook helps to get clothes off. The shaft of the stick is wooden with vinyl covered hooks. Length is 27".



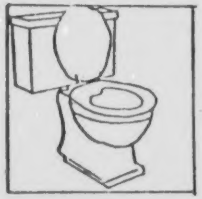
UPPER TORSO SUPPORT HARNESS:
Supports the individual with balance problems in sitting. Harness attaches to a chair or wheelchair and is worn vest-style.



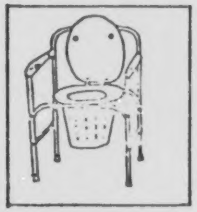
AUTOMATIC TOILET SEAT ELEVATION UNIT:
For the individual who has difficulty in reaching a full sitting position. Designed to fit all toilet seats. Height adjustable 3"-6".



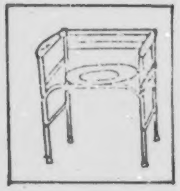
BASIC COMMODE:
Made of high strength polished aluminum. Unit comes completely equipped with white plastic hand grips, toilet seat, and a white plastic container plus lid. Each of the four legs are reinforced with plastic glides under rubber tips. A variety of adapted commodes have been developed to meet individual needs.



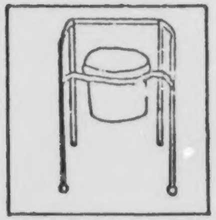
BIDET:
Easily attaches to a toilet bowl. Allows the disabled individual to wash the perineal area without assistance.



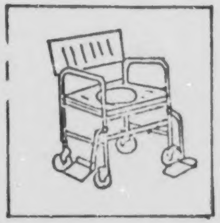
COMMODE/CHAIR-TYPE:
A chair that can be used over the toilet or as a commode when utilizing the receptacle provided.



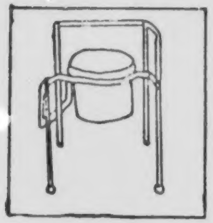
COMMODE/FOLDING:
Modelled after a basic commode, the folding commode is lightweight and portable.



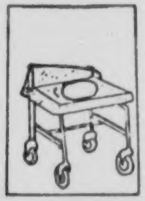
COMMODE WITH ADJUSTABLE LEG HEIGHT:
A basic commode that comes equipped with four adjustable telescoping legs that will permit the height of the commode to be adjusted from 18"to 22" at one inch height intervals.



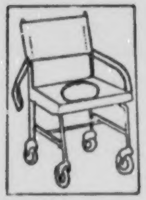
COMMODE WITH DETACHABLE SWING-AWAY FOOTRESTS:
A basic over-toilet commode with footrests that operate as those on a wheelchair.



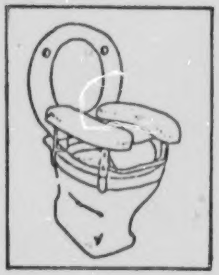
COMMODE WITH DROP ARMS:
A basic chair commode with arms that drop down for easy side entry.



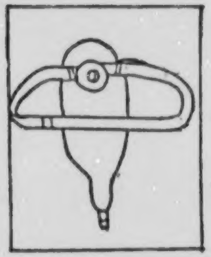
COMMODE WITH FOLD-DOWN BACK:
A basic over-toilet commode. Back folds down for individuals who don't require this added support or for bathing purposes.



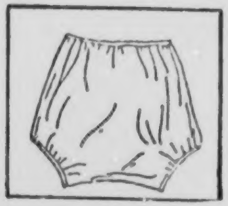
COMMODE WITH PIVOT ARMS:
A basic over-toilet commode with arms that swing to the back of the chair for side entry and exit.



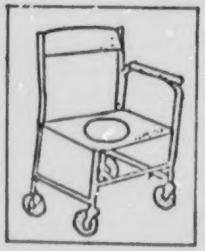
ELEVATED BRACKET SEAT:
Adds four inches to toilet seat height. Tapered flange holds securely in the toilet bowl.



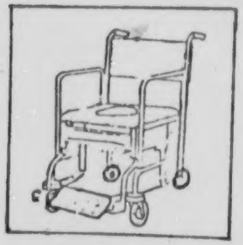
ILEOSTOMY-COLOSTOMY APPLIANCES:
A collection bag and belt that collect intestinal waste. Bags are either disposable or reusable.



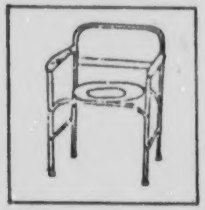
INCONTINENCE UNDERGARMENTS:
Underpants made of polyethylene and lined with highly absorbant cotton. Available with 3-ply snap-in flannel liner.



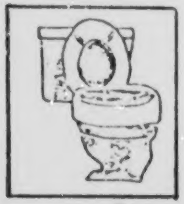
OVER-TOILET COMMODE WITH REMOVABLE ARMRESTS:
A basic over-toilet commode with armrests that detach for easier entry and exit.



OVER-TOILET COMMODE WITH RETRACTABLE FOOTRESTS:
A basic over-toilet commode with footrests that move away for entry and exit.

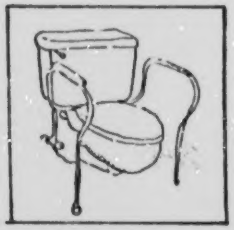


OVER-TOILET COMMODE AND SHOWER CHAIR:
A commode that can be used in the shower. Made of plastic.



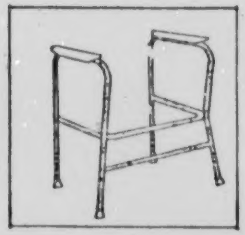
PADDED SEAT AND RAISER:

Reduces sitting pressure and protects sensitive skin areas. Fits standard size bowls.



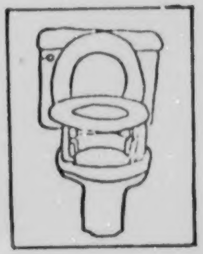
PERMANENT TOILET SAFETY FRAMES:

Made of reinforced aluminum tubing. Frame can be raised for easy cleaning. Arm rests provide additional safety.



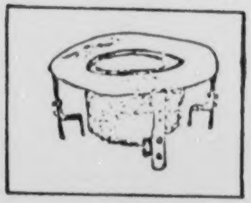
PORTABLE SAFETY FRAMES:

Free-standing frame that can be easily moved to any area where it is needed.



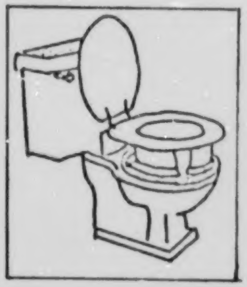
RAISED OVAL TOILET SEAT:

Easily attaches and detaches from toilet. Available in three heights. A splash pan and brackets can be added.



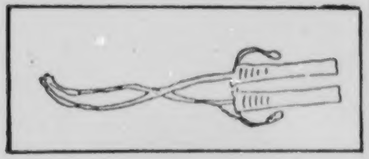
SEAT RAISER:

Adjusts from 4"-6" above bowl in 1" increments. Tip-proof seat with splash guard.



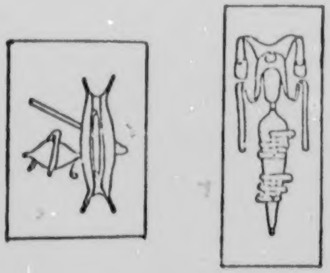
SPLASH SHIELD:

Attaches to seat ring and extends to bowl.



TOILET WIPING AID:

Useful for individuals with short limbs, limited range of movement, and hand function problems. Length is 27".



URINALS (female/male):

Urinals are made of soft rubber with waist belts. Available in one ounce capacities. Collect urine for incontinent individuals.

BOOKS AND PAMPHLETS ON ADAPTIVE EQUIPMENT

Aids for the Special. (Order from 131 Sayre St., Elizabethtown, N.J. 07208).

Bare, C., Boettke, E., & Waggoner, N. Self-help Clothing for the Handicapped. Chicago: National Society for Crippled Children and Adults, 1962.

Copeland, K. (Ed.). Aids for the Severely Handicapped. NY: Grune & Stratton, 1974.

Hoffman, B. How to build special furniture and equipment for children. IL: Charles C. Thomas, 1970.

ICTA catalogue. Aids for children. (Order from ICTA Information Center, FACK, S-16103, Bromma 3, Sweden).

Inservice Training Manual. United Cerebral Palsy Association of New York State. (Order from Department of Mental Hygiene, 815 2nd Avenue, New York, NY 10017).

Klinger, J., Frieden, F., & Sullivan, R. Mealtime Manual for the Aged and the Handicapped. Essandess, NY: Simon and Schuster Inc., 1970.

May, E., Boettke, E., & Waggoner, N. Homemaking for the Handicapped. NY: Dodd, Mead & Company, 1966.

Meyer Children's Rehabilitation Institute Teaching Program for Young Children. Handicapped children in Head Start series. Reston, VA: Council for Exceptional Children, 1920 Association Drive, 1974.

Nathan, C. Please help us help ourselves. Indianapolis, IN: Cerebral Palsy Clinic, Indiana University Medical Center.

Robinault, I. (Ed.). Functional aids for the multiply handicapped. Hagerstown, MD: Harper & Row, 1973. (Available in paper from United Cerebral Palsy Association, Inc.).

Rusk, H. Rehabilitation Medicine. St. Louis, MO: C.V. Mosby, 1971.

Selected equipment for pediatric rehabilitation. (Order from Blythedale Children's Hospital, Bradhurst Avenue, Valhalla, N.Y. 10595).

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Zimmerman, M. Self-help devices for rehabilitation (Part 1). Dubuque, IO: William C. Brown, 1958 Part 2, 1965).

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Allschuler, P., Pidcoe, S., & Moss, B. Oral eating device for food placement. American Journal of Occupational Therapy, 1975, 29. 229.

Arcahgel, P. & Schoenthal, W. Conversion of ring walker to chair for child with multiple orthopedic deformities. Physical Therapy, 1973, 53, 1296-7.

Colby, J. Portable child-size tilt table. Physical Therapy, 1974, 54, 26.

Cristarella, M. Comparison of straddling and sitting apparatus for the spastic cerebral palsied child. American Journal of Occupational Therapy, 1974, 28, 112.

Epling, C. Positioning high chair. American Journal of Occupational Therapy, 1974, 28, 112.

Gilbert, P. Wheelchair insert for hip and trunk support for children with cerebral palsy. Physical Therapy, 1974, 54, 254-55.

Gmetter, B.S. & Richards, M. Pulley feeding system. Physical Therapy, 1973, 53, 973-74.

Hallenbeck, P. & Behrens, D. Clothing problems of the retarded. Mental Retardation, 5(1), 21-25, 1966.

Hallenbeck, P. Special clothing for the handicapped: reviews of research and resources. Rehabilitation Literature, February, 1966, 27, (2), 34-40.

Holse-Buehler, P. Wheelchair utility tray. American Journal of Occupational Therapy, 1969, 23, 49-50.

Mathis, J. Adaptive walker for a child with cerebral palsy. Physical Therapy, 1975, 55, 1344.

Minge, M. & Ball, T. Teaching of self help skills to profoundly retarded patients. American Journal of Mental Deficiency, 1967, 71, 864-868.

Munroe, J. Walkers adapted for the handicapped child. Physical Therapy, 1973, 53, 868-870.

Phillpat, R. Head helmet for cerebral palsy. American Journal of Occupational Therapy, 1969, 23, 116-18.

SELECTED ARTICLES ON ADAPTIVE EQUIPMENT

Riley, M. The effect of an arm restrainer on involuntary movement. American Journal of Occupational Therapy, 1969, 23, 116-18.

White, J. Stimulation box for the profoundly mentally retarded. American Journal of Occupational Therapy, 1976, 30, 167.

Wilbur, F. Foam rubber side-lying support for children with cerebral palsy. Physical Therapy, 1975, 55, 1345.

MANUFACTURERS

The following is a list of the equipment found in the preceding pages. The numbers that follow each item correspond with the manufacturer's listing that follows this section.

The motor area (gross or fine) the equipment is designed to aid or develop.

The specific skill the equipment is designed to assist.

The kind of motor development the equipment refers to.

The manufacturers who distribute the item.

The specific item of equipment.

MANUFACTURERS

SKILL AREA: Gross Motor

SUB SKILL: Locomotion

ITEM:	MANUFACTURER:		general	rolling	crawling/creeping	walking/climbing	running	jumping
			CLUSTER(S)					
balance beam	61, 63, 67, 92					●		
balance and coordination equipment	50, 61, 93, 203		●					
bathtub bench with backrest	1, 115, 118, 193					●		
bathtub rails	1, 25, 30, 186, 201					●		
bathtub/shower bench	10, 45, 52, 86					●		
bus ramp	43, 101					●		
cane	1, 188, 195, 202					●		
cane/ four-legged base	15, 18, 30, 141					●		
cane/glider	83, 150					●		
cane/telescopic	9, 40, 44, 141					●		
cane/ three-legged with swivel joint base	10, 104, 138, 150					●		
cane/three-legged telescopic	52, 141, 150					●		
crutches	150, 188, 202					●		
crutches/axillary orthopedic	150					●		

MANUFACTURERS

			CLUSTER(S)					
SKILL AREA: Support Equipment SUB SKILL: ITEM:	MANUFACTURER:		gross motor	fine motor				
balance square	188		●					
barrel roll	61, 67, 188		●					
body balance coordination unit	188		●					
bouncing tube	61, 67. 188		●					
crawler	188		●					
crawling tunnel	61, 67, 188		●					
dressing frame set	61, 67, 188			●				
exercise ball	61, 68		●					
knobbed puzzles	61, 67			●				
pitch back	188		●					
placement ladder	188		●					
rocker balance square	67, 188		●					
round scooter board	188		●					
safety bouncer	61, 67, 188		●					

MANUFACTURERS

			CLUSTER(S)					
SKILL AREA: Support Equipment SUB SKILL: ITEM:	MANUFACTURER:		gross motor	fine motor				
safety play batting set	188		●					
sand and water table	61, 67, 188			●				
square peg board	61, 67, 188			●				
vestibular board	188		●					
wedges, cylinders, positioners	61, 67		●					

MANUFACTURERS

SKILL AREA: Gross Motor SUB SKILL: Head Control ITEM:	MANUFACTURER:		CLUSTER(S)					
			head control	neck				
cervical collar	3, 52, 68, 90			●				
cervical contour pillow	1, 52, 99, 150			●				
enabler	4		●					
feeding mechanism	1, 4		●					
head control system	4		●					
head support for chair (sling)	1, 10, 112, 115		●					
lateral head supports	1, 10, 15, 45		●					

MANUFACTURERS

SKILL AREA: Fine Motor SUB SKILL: Facial ITEM:	MANUFACTURER:		CLUSTER(S)					
			tactile	mouth and voice	eye			
communicator	4			●				
feeding mechanism	1, 4			●				
head pointer/adjustable	1, 200			●				
optiscope	214				●			

MANUFACTURERS

SKILL AREA: Fine Motor

SUB SKILL: Bowel and Bladder

ITEM:	MANUFACTURER:	bowel control	bladder control	general			
automatic toilet seat elevation unit	83, 200			•			
basic commode	15, 40, 77, 238			•			
bidet	1, 10, 52, 84			•			
commode/chair-type	80, 150			•			
commode/folding	52, 77, 84, 111			•			
commode with adjustable leg height	1, 15, 40, 44			•			
commode with detachable swing-away footrests	45, 150, 180			•			
commode with drop arms	53, 83, 115			•			
commode with fold down back	1, 30, 83, 150			•			
commode with pivot arms	1, 83, 84, 115			•			
elevated bracket seat	203, 225, 227			•			
ileostomy/colostomy appliances	70	•					
incontinence undergarments	1, 52, 70, 80		•				
over-toilet commode with removable armrests	1, 3, 45, 53			•			

MANUFACTURERS

SKILL AREA: Fine Motor

SUB SKILL: Bowel and Bladder (cont.)

ITEM:	MANUFACTURER:	bowel control	bladder control	general			
over-toilet commode with retractable footrests	84, 138			•			
over-toilet commode and shower chair	1, 40, 52, 138			•			
padded seat and raiser	84, 188			•			
permanent toilet safety frames	10, 84, 142, 203			•			
portable safety frames	10, 27, 45, 77			•			
raised oval seat	1, 45, 52, 140			•			
seat raiser	84, 203			•			
splash shield	80, 84, 108, 138			•			
toilet wiping aid	200	•					
urinals (female)	1, 64, 70, 84		•				
urinals (male)	10, 70, 150, 161		•				

MANUFACTURERS

SKILL AREA: Gross Motor SUB SKILL: Locomotion ITEM:	MANUFACTURER:		CLUSTER(S) general	rolling	crawling/creeping	walking/climbing	running	jumping
balance beam	61, 63, 67, 92					•		
balance and coordination equipment	50, 61, 93, 203		•					
bathtub bench with backrest	1, 115, 118, 193					•		
bathtub rails	1, 25, 30, 186, 201					•		
bathtub/shower bench	10, 45, 52, 86					•		
bus ramp	43, 101					•		
cane	1, 188, 195, 202					•		
cane/ four-legged base	15, 18, 30, 141					•		
cane/glider	83, 150					•		
cane/telescopic	9, 40, 44, 141					•		
cane/ three-legged with swivel joint base	10, 104, 138, 150					•		
cane/three-legged telescopic	52, 141, 150					•		
crutches	150, 188, 202					•		
crutches/axillary orthopedic	150					•		

MANUFACTURERS

SKILL AREA: Gross Motor SUB SKILL: Locomotion (cont.) ITEM:	MANUFACTURER:		CLUSTER(S) general	rolling	crawling/creeping	walking/climbing	running	jumping
crutches/forearm	150					•		
crutches/forearm orthopedic	150					•		
crutches/mat	150, 188					•		
crutches/offset	150					•		
crutches/offset forearm	150					•		
crutches/triceps	150					•		
crutches/tripod	150					•		
crutches/trough forearm	150					•		
crutches/underarm telescopic	150					•		
developmental suspension crawler	4				•			
dyna-balance rocking platform	1, 52, 150, 158		•					
exercise staircase/ straight-type	1, 10, 18, 158					•		
exercise stairs/convertible	1, 10, 18, 158					•		
fixed recline chair	1, 107, 188					•		

MANUFACTURERS

SKILL AREA: Gross Motor

SUB SKILL: Locomotion (cont.)

ITEM:	MANUFACTURER:	general	rolling	crawling/creeping	walking/climbing	running	jumping
glide-about chair	15, 40, 45, 52				•		
grab bars	108, 109, 114, 115				•		
lift/bathroom	83, 84, 112, 115				•		
lift/bathroom chair	83, 84, 112, 115				•		
lift/bus	43, 55, 156				•		
lift/car top	112, 150, 188, 193				•		
lift/Hoyer	111				•		
lift/mobile collapsible	52, 83, 84, 112				•		
lift/mobile with adjustable base	52, 77, 83, 84				•		
lift/pool	84, 112, 150, 188				•		
lift/portable in-tub hydraulic	52, 150, 159, 188				•		
lift/stair	1, 14, 48, 69				•		
motorized cart	1, 16, 55, 123				•		
overhead trapeze aid	1, 84, 115, 150	•					

MANUFACTURERS

SKILL AREA: Gross Motor

SUB SKILL: Locomotion (cont.)

ITEM:	MANUFACTURER:	general	rolling	crawling/creeping	walking/climbing	running	jumping
parallel bars with crank operated height adjustments	84, 125, 150, 188				•		
parallel bars/folding	1, 10, 84, 150				•		
parallel bars/motorized	1, 52, 188, 223				•		
parallel bars/triple	18, 84, 150, 188				•		
safety walking belt	5, 10, 52, 84, 182				•	•	•
stride guide	4, 18, 150				•		
transfer board	1, 110, 115, 150		•				
transporter chair	1, 15, 27, 77				•		
treadmill	20, 52, 84, 150				•		
walkers	150				•		
walker/adjustable	188				•		
walker/children's	150				•		
walker/folding	150				•		
walker/full body suspension	150, 202				•		

MANUFACTURERS

SKILL AREA: Gross Motor

SUB SKILL: Locomotion (cont.)

ITEM:	MANUFACTURER:		CLUSTER(S) general	rolling	crawling/creeping	walking/climbing	running	jumping
walker/multipurpose stair	150					•		
walker/overhead suspension	150					•		
wedge grip seat for bathtub	1, 45, 104, 108		•					
wheelchair/amputee	163, 188, 202, 211					•		
wheelchair/children's	188, 195, 211, 224					•		
wheelchair/front-wheel propelled	163, 166, 202, 217					•		
wheelchair/monodrive motorized	83, 150, 195					•		
wheelchair/motorized	156, 168, 195, 202					•		
wheelchair/one-arm drive	83, 115, 150, 211					•		
wheelchair/reclining	1, 53					•		
wheelchair/standard rear wheel drive	1, 10, 15, 45					•		

MANUFACTURERS

SKILL AREA: Gross Motor SUB SKILL: Posture ITEM:	MANUFACTURER:		CLUSTER(S) prone	supine	sitting	standing/squatting		
achiever seat	150				●			
body harness	4				●			
car back support	31, 178, 202				●			
contourpedic seat	58				●			
control jacket	59				●			
cut-out table	1, 18, 52, 84				●	●		
floor sitter	1, 18, 188				●			
foot stool with hand rail	181					●		
growth guidance chair	157				●			
long handled shoe horn	52, 150					●		
mancino learning center	4				●			
overbed book holder	1, 52, 150, 188			●				
pelvic support harness	52, 184				●			
pillow	188			●				

MANUFACTURERS

SKILL AREA: Gross Motor SUB SKILL: Posture (cont.) ITEM:	MANUFACTURER:		CLUSTER(S) prone	supine	sitting	standing/squatting		
prone board with adjustable desk	4		●					
prone stander	157		●					
relaxation chair	1, 18, 52, 84				●			
stand aid	3					●		
standing stabilizer	18, 52, 65, 150					●		
trouser aid	1, 200			●				
upper torso support harness	1, 168, 182, 184				●			

MANUFACTURERS

SKILL AREA: Fine Motor

SUB SKILL: Digital

ITEM:	MANUFACTURER:		CLUSTER(S) gross grasp	fine grasp				
adjustable swivel utensils	84, 200		•					
adjustable utensil holders	1, 52, 84, 150		•					
built-up handle utensils	1, 52, 84, 150		•					
button hooks	1, 52, 84, 200			•				
Chubbi stumb crayons	162			•				
combination button pull & zipper pull	1, 200			•				
cuff and strap pencil holder	52, 84, 200			•				
detachable handles for drinking glasses	1, 52, 84, 150		•					
dorsal feeding splints	1, 84, 200		•					
drinking cups with modified handles	84, 150, 186		•					
elastic shoe laces	1, 46, 52, 200			•				
electric razor holder	52, 84, 200		•					
expanded handle utensils	1, 52, 84, 200		•					
fastening shoes	167			•				

MANUFACTURERS

SKILL AREA: Fine Motor

SUB SKILL: Digital (cont.)

ITEM:	MANUFACTURER:		CLUSTER(S) gross grasp	fine grasp				
finger board	52, 105, 150			•				
hairbrush on a handle	150		•					
horizontal palm self-handle utensil	1, 52, 140, 200		•					
knuckle bender splint	52, 84, 122, 150		•					
pencil grips	67			•				
safety razor holder	52, 54, 200		•					
shoe closure device	1, 52, 200			•				
shoe remover	1, 52, 200		•					
suction mounted bottle brush	200		•					
utensil holder	1, 52, 84 150, 200		•					
vertical palm self-handle utensil	1, 52, 200		•					
wire, wood or plastic pen holders	52, 84, 86, 140			•				
writing line guide	200			•				
zipper type fastener for shoes	1, 52, 134			•				

MANUFACTURERS

SKILL AREA: Fine Motor SUB SKILL: Digital (cont.) ITEM:	MANUFACTURER:		gross grasp	fine grasp				
zipper pull	167			•				

MANUFACTURERS

SKILL AREA: Gross Motor SUB SKILL: Limb Control ITEM:	MANUFACTURER:		arms	hands	legs	feet		
angled fork or spoon	1, 45, 108, 140			•				
arm sling	1, 52, 65, 68		•					
automatic page turner	1, 95, 127, 150			•				
ball bearing feeder	1, 52, 116, 118		•	•				
book holder	200			•				
book holder/book butler	200			•				
book holder/miller	200			•				
book holder/wire frame	200			•				
bowling ball pusher	200		•	•				
bowling ramp	188		•	•				
car door opener	179			•				
cock-up splint	150, 225, 236			•				
comb and hairbrush on extended handles	52, 84, 140, 200		•	•				
digitator hand exerciser	10, 45, 52, 84			•				

MANUFACTURERS

SKILL AREA: Gross Motor

SUB SKILL: Limb Control (cont.)

ITEM:	MANUFACTURER:		CLUSTER(s)					
			arms	hands	legs	feet		
dumbbells	1, 52, 84, 143		●	●				
dumbbell hand exerciser	1, 45, 52, 84			●				
elbow protector	1, 5, 26, 68		●					
extension	200		●	●				
extension handled utensils	1, 52, 84, 150		●	●				
feeder	216		●	●				
finger/shoulder ladder	1, 10, 18, 52		●	●				
food guard	200			●				
food guard/lazy susan	200			●				
food guard/plastic	200			●				
food guard/sure grip	200			●				
foot boards	1, 10, 52, 67					●		
foot drop device/ calf-base toe lifter	200				●	●		
genu recurvatum support	1, 52, 188				●			

MANUFACTURERS

SKILL AREA: Gross Motor

SUB SKILL: Limb Control (cont.)

ITEM:	MANUFACTURER:		CLUSTER(s)					
			arms	hands	legs	feet		
glass holder	1, 84, 150, 200			●				
grasping mitt for putting on socks	200			●				
grip exerciser	45, 52, 150, 188			●				
heel protector	1, 5, 26, 52					●		
jar opener	33			●				
lazy-susan glass and straw holder	1, 52, 84, 200			●				
left foot accelerator	79, 97, 102, 161					●		
left hand shift lever	97, 102, 161, 197			●				
loop trouser pull	1, 200		●	●	●			
meat cutter knife	52, 84, 188, 200			●				
one-handed rolling pin	200			●				
pail caddy	200				●			
paper insert aid	200			●				
pulley eater	4		●	●				

MANUFACTURERS

		CLUSTER(S)						
SKILL AREA: Gross Motor **SUB SKILL:** Limb Control (cont.) **ITEM:**	**MANUFACTURER:**		arms	hands	legs	feet		
pulley weight system	1, 10, 52, 84		•	•				
right hand turn signal lever	97, 102, 161, 197			•				
rotary wrist supinator	1, 52, 84, 125		•	•				
sand bag	52, 84, 150, 184				•			
scissors/amputee	200			•				
scissors/four-loop	200			•				
scissors/left hand	200			•				
scoop dish	1, 52, 108, 200			•				
shoe-aid/fastener	188, 200			•				
shoe-aid/tylastic laces	188, 200			•				
shoulder wheel	1, 10, 18, 27		•					
slings	1, 52, 53, 83		•					
sporks	1, 52, 84, 108			•				
suction holder	45, 52, 150, 180			•				

MANUFACTURERS

		CLUSTER(S)						
SKILL AREA: Gross Motor **SUB SKILL:** Limb Control (cont.) **ITEM:**	**MANUFACTURER:**		arms	hands	legs	feet		
suction mounted brush	200		•	•				
swivel-handle utensils	1, 52, 84, 150			•				
table writer	4		•	•				
telephone receiver holder	21, 188			•				
thera-plast	216			•				
universal plate positioner	4		•	•				
wet mop with self-wringing feature	200		•	•				
wrist roll	52, 143, 150		•	•				

MANUFACTURERS

1 Abbey Rents and Sales
600 South Normandie
Los Angeles, CA 90005

2 Acousta Auditory Trng. Units
2919 Rhode Island N.E.
Alburquerque, NM 87110

3 Active Aid
501 E. South St.
Redwood Falls, MN 56283

4 Adaptive Therapeutic Systems
36 Howe St.
New Haven, CT 06511

5 Alconox, Inc.
215 Park Ave. So.
New York, NY 10003

6 AliMed
11 Concord Square
Boston, MA 02118

7 Alsons Products Corp.
E. Chicago Rd.
Somerset, MI 49281

8 American Battery Car, Inc.
RR #2 Box 126
Bristol, IN 46507

9 American Foundation for the Blind
15 W. 16th St.
New York, NY 10011

10 American Hospital Supply
330 Shaw Rd.
San Francisco, CA 94080

11 American Mason Safety Tread Co.
PO Box 310
Lowell, MA 01835

12 American Printing House for the Blind
PO Box 6085
Louisville, KY 40206

13 American Seating
2440 Charleston Rd.
Mt. View, CA 94043

14 American Stair Glide Corp.
201 W. 80th Terrace
Kansas City, MO 64114

15 American Wheelchair Co.
5500 Muddy Creek Rd.
Cincinnati, OH 45238

16 Amigo Sales Co.
6712 Dixie Highway
Bridgeport, MI 48722

17 Aztec International
2018 Washington Avenue
St. Louis, MO 63103

18 Bailey Mfg. Co.
1118 Lee St.
Lodi, OH 44252

19 Baka Mfg. Co. Inc.
7011 Cross St.
Plainsville, MA 02762

20 Battle Creek Equipment
307 W. Jackson St.
Battle Creek, MI 49016

21 Beckley-Cardy
1900 No. Narragansett Ave.
Chicage, IL 60639

22 Bell Telephone Labs
Mountain Ave.
Murray Hill, NJ 07974

23 Berge, J & J Inc.
411 So. Clinton Ave.
So. Plainfield, NJ 07080

24 Bethlehem Corp.
225 W. Second St.
Bethlehem, PA 18016

MANUFACTURERS

25 Better Sleep, Inc.
New Providence, NJ 07974

26 Bio-Clinic Co.
10515 Burbank Blvd.
No. Hollywood, CA 91601

27 Blomquist Olle Rehab-Productr
Box 5106-S-102 43
Stockholm 5, Sweden

28 Borg-Warner Hosp. Therapy Prod.
Wolf and Algonquin Roads
Des Plaines, IL 60018

29 Brecks of Boston
300 Breck Bldg.
Boston, MA 02210

30 Brewer, E.F. Co.
PO Box 711
Butler, WI 53007

31 Britax Ltd., Proctor Words
Chertsey Road
Byfleet, Surrey, England

32 Brodhead Garrett Co.
4560 E. 71st St.
Cleveland, OH 44105

33 Brookstone Co.
3 River Road
Worthington, MA 01098

34 Brrr Products
PO Box 127
Hasbrouck Heights, NJ 07604

35 Burke Enterprises
PO Box 1011
Mission, KS 66202

36 Burstein-Applebee Co.
3199 Mercier St.
Kansas City, MO 64111

37 Bush Electric Co.
2145 Folsom St.
San Francisco, CA 94103

38 California Medical Aids
3722 Park Place
Monrose, CA 91020

39 Calley & Currier Co.
Bristol, NH 03222

40 Cameron Sales Co.
10460 Gandy Blvd.
St. Petersburg, FL 33702

41 Camp Int., Inc.
PO Box 89
109 W. Washington
Jackson, MI 49204

42 Car Hand Controls
266 E. Park Ave.
Elmhurst, IL 60126

43 Carpenter Body Works, Inc.
Mitchell, IN

44 Carstens Mfg. Co.
7320 Agatite Ave.
Norridge, IL 60656

45 Carters J. & A. Ltd.
Alfred St., Westbury, Wilt
London, England

46 Cecil Corp.
PO Box 654
Evanston, IL 60204

47 Chattanooga Pharmacal Co.
PO Box 4256
Chattanooga, TN 37405

48 Cheney Co.
7611 No. 73rd St.
Milwaukee, WI 53223

49 Child Ideas
PO Box 1095
Cupertino, CA 95014

50 Child Life Play Specialities
1640 Washington St.
Holliston, MA 01746

51 Childcraft Equipment Co.
150 E. 58th St.
New York, NY 10022

52 Cleo Living Aids
3957 Mayfield Rd.
Cleveland,OH 44121

53 Colson Corp.
125 12th St. Suite 151
Oakland, CA 94612

54 Community Playthings
Rifton, NY 12471

55 Compass Industries, Inc.
715 15th St.
Hermosa Beach, CA 90354

56 Conrad, Chas. O.
375 Mt. Pleasant Ave.
W. Orange, NJ 07052

57 Constructive Playthings
1040 E. 84th St.
Kansas City, MO 64131

58 Contourpedic Corp.
1106 Edgewater Ave.
Ridgefield, Ny 07657

59 Control Development Inc.
104 W. 144th St.
Riverdale, IL 60627

60 Corp. for Medical Eng.
7307 So. Whittier Ave.
Whittier, CA 90602

61 Creative Playthings, Inc.
Educational Dept.
Princeton, NJ 08540

62 Creative Publications
PO Box 10328
Palo Alto, CA 94302

63 Daigger Co., Div. of ETA
159 W. Kinzie St.
Chicago, IL 60610

64 Davol Rubber Co.
Box D
Providence, RI 02901

65 Denison, C.D.
Orthopedic Appliances
220 W. 28th St.
Baltimore, MD 21211

66 Detecto
103-00 Foster Ave.
Brooklyn, NY 11236

67 Developmental Learning
Materials
3505 N. Ashland Ave.
Chicago, IL 60657

68 Dillon Mfg. Co.
PO Box 29144 B
Atlanta, GA 30329

69 Dover Corp. Elevator Div.
PO Box 2177
Memphis, TN 38102

70 Down Bros., Mayer &
Phelps Ltd.
261 Davenport Rd.
Toronto, 180-Ontario,
Canada

71 Downs Surgical Inc.
655 73rd St.
Niagara Falls, NY 14304

72 Drive-Master Corp.
61 No. Mountain Ave.
Montclair, NJ 07042

73 Dryspell Industries, Inc.
250 W. 57th St.
New York, NY 10019

74 Dunn Drive Controls
2227 Elmwood Ave.
Buffalo, NY 14216

75 Dawn & Co.
629 Fulton St.
San Francisco, CA 94102

76 Dyna Med. Inc.
PO Box 2157
Leucadia, CA 92024

77 ECM
1030 W. 12th ST.
Erie, PA 16501

78 Earls Stairway Corp.
2407 Center Highway No. 218
Cedar Falls, IO 50613

79 Eckstein Bros.
4807 W. 118th Place
Hawthorne, CA 90250

80 Edco Surgical Supply Co.
125 South St.
Passaic, NJ 07055

81 Elmer's Weights
PO Box 5426
Lubbock, TX 79417

82 Evenflo Co.
PO Box 190
Ravenna, OH 44266

83 Everest and Jennings
1803 Pontinuis Ave.
Los Angeles, CA 90025

84 Fairway King, Inc.
4408 No. Sewell
Oklahoma City, OK 73118

85 Flakenberg Inc.
3612 S.W. Troy St.
Portland, OR 97219

86 Fashionable Inc.
Rocky Hill, NJ 08553

87 Resco Inc.
PO Box 1565
Mansfield, OH 44907

88 Finigan
PO Box 5692
San Francisco, CA 94101

89 Fli-Back Sales Corp.
PO Box 427
High Point, NC 27261

90 Florida Mfg. Corp.
PO Box 449
Daytona Beach, FL 32015

91 Frohock Stewart Inc.
79 Beacon St.
Worcester, MA 01608

92 Galt, James and Co. Ltd.
Brookfield Rd., Cheadle
Chesire, England

93 Game Time, Inc.
PO Box 713
Litchfield, MI 49254

94 General Theraphysical, Inc.
2018 Washington Ave.
St. Louis, MO 63103

95 Gentex Corp.
450 7th Ave.
New York, NY 10001

96 Givens & Co., Dee's Prod.
123 Lullabye Lane
Downers Grove, IL 60515

97 Gresham Driving Aids
PO Box 504
Wixom, MI 48096

98 Guardian Products Co., Inc.
8277 Lankershim Blvd.
No. Hollywood, CA 91605

99 Hallmark Co.
107 No. Santa Anita Ave.
Arcadia, CA 91006

100 Hand Gym, Inc.
PO Box 111
Point Lookout, NY 11569

101 Handi-Ramp, Inc.
1414 Armour Blvd.
Mundelein, IL 60060

MANUFACTURERS

102 Handicaps Inc.
PO Box 1337
Englewood, CA 80110

103 Hartline Products Co., Inc.
2186 Noble Rd.
Cleveland, OH 44112

104 Harvey Surgical Supply Corp.
34-35 Collins Place
Flushing, NY 11354

105 Hausmann Industries, Inc.
130 Union St.
Northvale, NJ 07647

106 Hendrickson, Inc.
4130 Highway 55
Minneapolis, MN 55422

107 Hogg Chair Co., Mfg.
16201 Clinton St.
Harvey, IL 60426

108 Homecraft Supplies Ltd.
27 Trinity Rd. Balham
London, SW 17, England

109 Hospital and Orthopedic Aides
3640 NW 41st St.
Miami, FL 33142

110 Howlin Enterprises, Inc.
73 Andover Rd.
Roslyn Heights, NY 11577

111 Howmedica Inc. of Ohio
Lugbill Rd.
Archbold, OH 45302

112 Hoyer, Ted & Co., Inc.
2222 Minnesota St.
Box 2744
Oshdosh, WI 54901

113 Humanics of Delaware
920 Marshall Rd.
New Castle, DE 19720

114 Inclinator Co. of America
PO Box 1557
Harrisburg, PA 17105

115 Invacare Corp.
443 Oberline Rd.
Elyria, OH 44035

116 Jaeco Orthopedic Specialties
PO Box 75
Hot Springs, AR 71901

117 Jobst Institute, Inc.
PO Box 653
Toledo, OH 43694

118 Johnston Orthopedic Appl.
2585 Shattuck Ave.
Berkeley, CA 97404

119 Jones-Zylon, Inc.
PO Box 158 Tray No. St-10
W. Lafayette, OH 53845

120 Kadan, D.A. Co., Inc.
15 Oak St.
Mt. Vernon, NY 10550

121 Kendall Co., Curity
304 W. Jackson Blvd.
Chicago, IL 60606

122 Keropian Orthopedic Appl.
683 Seventh Ave.
San Francisco, CA 94118

123 Kinetics, Inc.
PO Box 2096
South Bend, IN 46615

124 LADOCA Proj. and Publishing Found.
E. 51st Ave. at Lincoln St.
Denver, CO 80216

125 LaBerne Mfg. Co.
PO Box 9245
Columbia, SC 29202

MANUFACTURERS

126 Lakeland Tool Works
PO Box 1221
Brushville, MN 55378

127 Lakeshore Curriculum Mat.
PO Box 2116
San Leandro, CA 94577

128 Lakeshore Equipment Co.
1144 Montague Ave.
San Leandro, CA 94577

129 Lakeshore Mfg., Inc.
1977 So. Allis St.
Milwaukee, WI 53201

130 Lamson & Goodnow Mfg. Co.
45 Conway St.
Shelburne Falls, MA 01370

131 Laufer, L. & Co.
50 W. 29th St.
New York, NY 10001

132 Lev-L-Lift
5626 NE 42nd St.
Portland, OR 97206

133 Leverage Hand-Brake Co.
PO Box 853
Fargo, ND 58102

134 Lightning Fastener Co., Ltd.
50 Niagara St.,
St. Catherine, Ontario
Canada

135 Limb Hand Rehab. Prod.
5128 E. Ocean Blvd.
Long Beach, CA 90803

136 Logan, Inc.
848 No. Fair Oaks
Pasadena, CA 91103

137 Louelen
PO Box 159
Jackson Center, Ohio 45333

138 Lumax, Inc.
100 Spence St.
Bayshore, NY 11706

139 MPS
4666 Mercury St.
San Diego, CA 92111

140 Maddak, Inc.
Subsidary of Bel-Art Prod.
Pequannock, NJ 07440

141 Mah-Zell Precision Prod. Co
115 Lexington Ave.
Brooklyn, NY 11238

142 Maier-Hancock Ind.
13212 Raymer St.
NO. Hollywood, CA 91260

143 Marcy Gym Equipment Co.
1736 Standard Ave.
Glendale, CA 91201

144 Mark One Hospital Prod.
2700 Roberts Ave.
Philadelphia, PA 19129

145 Mauch Laboratories
3035 Dryden Rd.
Dayton, OH 45439

146 McRight, Ken Supplies
7456 So. Oswego
Tulsa, OK 74135

147 Meddev
PO Box 1352
Los Altos, CA 94022

148 Medicon Inc.
27 Maple Ave.,
Box 325
Holbrook, MA 02343

149 Miles Kimball
41 W. 8th Ave.
Oshkosh, WI 54901

150 Miller, G.E. Inc.
484 So. Broadway
Yonkers, NY 10705

151 Mind/Matter Corp.
PO Box 345
Danbury, CT 06810

152 Mini-Gym Inc.
PO Box 266
733 1/2 Northern Blvd.
Independence, MO 64501

153 Minibus Inc.
930 Stewart & Gray Rd.
Downey, CA 90241

154 Modern Tubular Prod. Ltd.
188 High St.
Egham, Surrey, England

155 Monogram Industries
6357 Arizona Circle
Los Angeles, CA 90045

156 Motorette Corp.
6014 Reseda Blvd.
Tarzana, CA 91356

157 Mulholland, L. & Ass.
985 Ann Arbor Ave.
Ventura, CA 93003

158 N.K. Products Co.
PO Box 657
Santa Cruz, CA 95060

159 National Products Co.
PO Box 483
Waukesha, WI 53186

160 Nelson, Kenneth
Route 1
Shelburn, MN 56171

161 Nelson Medical Products
5690 Sarah Ave
Sarasota, FL 33577

162 New England School Supply
Milton Bradley Co.
PO Box 1581
Springfield, MA 01101

163 Newton Wheelchair
UCPA of NY
122 E. 23rd St.
New York, NY 10010

164 Nissen Corp.
930 27th Ave., SW
Cedar Rapids, IO 53406

165 No. American Recreation
Conv.
PO Box 758
Bridgeport, CT 06601

166 Nurse-Aid Corp.
10460 Candy Blvd.
St. Petersburg, FL 33702

167 Occupational Therapy and
Rehabilitation Equip.
Fairway King, Inc.
3 East Main St.
Oklahoma City, OK 73104

168 OTC Professional Appl.
Eric Ave.
Cincinnati, OH 45209

169 Opaque Systems Ltd.
100 Taft St.
Hempstead, NY 11550

170 Oregon Worsted Co.
PO Box 02098
Portland, OR 97202

171 Ortho-Therapeatex
PO Box 48811
Los Angeles, CA 90048

172 Orthopedic Equipment Co.
Bourbon, IN 46504

173 Ortho-Industries
49 Lawton St.
New Rochelle, NY 10801

174 Ortho-Kinetics Inc.
PO Box 436
Waukesha, WI 53188

175 Orthopaedic Supplies, Co. Inc.
9126 E. Firestone, Bldg. R
Downey, CA 90241

176 Overly Mfg. Co.
W. Otterman St.
Greensburg, PA 15601

177 Owen Miniwinch
412 Woodward Blvd.
Pasadena, CA 91107

178 Possum Controls Limited
63 Mandeville Rd. Aylesburg
Buckinghamshire, England

179 Para Medical Distributors
1121 Grand Ave.
Kansas City, MO 64106

180 Peterson Baby Products
6904 Tujunga Ave.
No. Hollywood, CA 91605

181 Pioneer Co.
110 W. Washington St.
Lisbon, OH 44432

182 Piper Brace Sales Corp.
811 Wyandotte St.
Kansas City, MO 64105

183 Porto Lift Mfg. Co.
Higgins Lake, MI 48627

184 Posey, J.T. Co.
39 So. Santa Anita Ave.
Pasadena, CA 91107

185 Posture Cushion
Box 331
Missoula, MT 58901

186 Presco Precision Grinding
8019 Flood Rd.
Baltimore, MD 21222

187 Presco-Matic Lock Co., Inc
8228 W. 47th St.
Lyons, IL 60534

188 Preston, J.A. Corp.
71 Fifth Ave.
New York, NY 10003

189 Professional Specialities
Inc.
8133 Forsyth Blvd.
St. Louis, MO 63105

190 Quinton Instrument Co.
3051 44th St. W.
Seattle, WA 98199

191 RJ Chair Lift Co., Inc.
431 Elgin Ave.
Forest Park, IL 60130

192 Ramar Health Products Intl
3459 Westchester Pike
Newton Square, PA 19073

193 Rehabilitation Equip. Inc.
175 E. 83rd St.
New York, NY 10028

194 Rise-O-Matic Chair Co.
2294 Scranton Rd.
Cleveland, OH 44113

195 Robin-Aids
3353 Broadway
Vallejo, CA 94590

196 Rooks Products
PO Box 1063
Benton Harbor, MI 49022

MANUFACTURERS

197 Royce Intl. Sales
System for Handcp.
4345 So. Santa Fe Drive
Englewood, CO 80018

198 Safety Walk, Sales Div.
130 So. 10th St.
Minneapolis, MN 55403

199 Safety-Magic Sales Co.
Box 602
Janesville, WI 53545

200 Sammons, Fred Inc.
Box 32
Brookfield, IL 60513

201 Scimedics, Inc.
16220 Cundry Ave.
Paramount, CA 90723

202 Sears, Roebuck & Co.
2650 E. Olympic Blvd.
Los Angeles, CA 90051

203 Self-East Units
Box 12664
4307 Crestdale St.
Palm Beach, FL 33403

204 Simmons Co. Hausted Div.
PO Box 190
Medina, OH 44256

205 Skill Dev. Equipment Co.
PO Box 190
Anaheim, CA 92806

206 Smalley & Bates
88 Park Ave.
Nutley, NJ 07110

207 Smith and Nephew, Inc.
330 Madison Ave.
New York, NY 10010

208 Snitz Manufacturing Integration through Normalization
2096 Sp. Church St.
East Troy, WI 53120

209 Sparr Telephone Arm Co.
R.D. No. 1
Box 439
Stoudsburg, PA 18360

210 Speilwaren Hemmeler
Hintere, Vorstadt
Arrau, Switzerland

211 Stainless Medical Products
3107 So. Kislon Drive
Santa Anna, CA 92707

212 Stall & Dean
95 Church St.
PO Box 698
Brockton, MA 02403

213 Stewart George
1620 Callowhill St.
Philadelphia, PA 19130

214 Stimulation Learning Aids
65 Earle Ave.
Lynbrook, NY 11563

215 Stryker Corp.
420 Alcott St.
Kalamazoo, MI 49001

216 Thera-Plast Co.
132 Nassau St.
New York, NY 10038

217 Theradyne Corp.
Box 458
Jardan, MN 55352

218 Therafin
513 North St.
Crete, IL 60417

219 Therapeutic Equip. Corp.
4 East 15th St.
New York, NY 10003

220 Theneeds Inc.
Box 3302
6400 Southern Blvd.
Youngstown, OH 44512

MANUFACTURERS

221 Toce Bros.,
Wheel-O-Vator Div.
PO Box 489
Broussard, LA 70518

222 Trans-Aid Corp.
Tri W-G Inc.
PO Box 352
Valley City, ND 58072

223 Triple H. Laboratories
1156 15th St. NW
Washington, DC 20006

224 Truform Anatomic Supports
3960 Rosslyn Drive
Cincinnati, OH 45209

225 Tru-Eze Mfg. Co.
PO Box 855
Burbank, CA 91503

226 Trijillo Industries
815 Nash St.
El Segundo, CA 90245

227 Tubular Specialities Mfg. Inc.
1601 Nedeau St.
Los Angeles, CA 90001

228 Tupperware International Hdqrt.
Orlando, FL 32803

229 Tytell Typewriting Co.
116 Fulton St.
New York, NY 10038

230 UCPA of NW Oregon
Sheltered Workshop
7117 SE Harold St.
Portland, OR 97206

231 United States MFG. Co.
PO Box 110
623 So. Central Ave.
Glendale, CA 91209

232 Vocational Guidance and
Rehab. Service
2239 E. 55th St.
Cleveland, OH 44003

233 Warren's Educational Sup.
980 W. San Bernadino Rd.
Covina, CA 91722

234 Wells-Engberg Co.
2505 Rural St.
Rockford, IL 61107

235 Weniger, H.
70 12th St.
San FRancisco, CA 94103

236 Whitehall Electro Med. Co.
105 Temple Ave.
Hackensack, NJ 07601

237 Winfield Co., Inc.
3062 46th St.
St. Petersburg, FL 33712

238 Wolverine Sports
745 State Circle
Ann Arbor, MI 48104

239 Zim Mfg. Co.
2850-56 W. Fulton St.
Chicago, IL 60612

240 Zimmer Mfg. Co.
727 No. Detroit
Warsaw, IN 46580

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Access America

Chief Distribution Section
National Audio-Visual Center
Washington, D.C. 20409

A film presentation on architectural awareness and sensitivity training produced by the Architectural and Transportation Barriers Compliance Board.

A Child is a Child (7 min., color)

AIMS
626 Justin Avenue
Glendale, CA 91201

This film shows children with handicaps integrated with non-handicapped children in the preschool laboratory at California State University at Northridge.

Activities for Physical Fitness

Eye Gate House, Inc.
146 Archer Avenue
Jamaica, NY 11435

A kit of 6 color filmstrips with 6 albums and 10 stretch cables to be used in presenting a physical fitness program for the retarded. Activities center around increasing muscle strength, endurance, recuperative power, and sensory acuity.

Aids to Teaching the Mentally Retarded: Initial Perceptual Training (8 min.)

Thorne Films Inc.
1229 University Ave.
Boulder, CO 80302

One of five films on perceptual-motor training and sheltered workshops. Includes exercises to develop eye-hand coordination and dexterity.

And a Time to Dance (16 mm, black and white, 10 min.)

Commonwealth Mental Health Foundation
4 Marlboro Road
Lexington, MA 02173

A film describing a Creative Movement Program in the Massachusetts Community Clinical Nursery Schools.

Architectural Barriers: Problems, Solutions and Code Regulations

North Carolina Department of Insurance
Special Office for the Handicapped
P.O. Box 26387
Raleigh, NC 27611

A slide and cassette presentation aimed at familiarizing architects and building inspectors with new laws and standards for accessible design. Spring, 1977.

Architectural Barrier Removal for All

ABRAI Project
East Central University
Ada, OK, 74820

Seven slide presentations with cassettes and scripts. (1975)

Bobath Approach to Cerebral Palsy Habilitation (16mm, sound, color, 30 min.)

University of Kentucky
Regional Special Education Instructional Materials Center
641 South Limestone St.
Lexington, KY 40506

Illustrates normal sequential growth and development of reflex actions and methods used to initiate in cerebral palsied children.

C.E.R.C. Feeding Clinic (slide/tape 12 min.)

Commonwealth Mental Health Foundation
4 Marlboro Road
Lexington, MA 02173

A presentation of the feeding clinic at the Fernald State School in Waltham, Mass. Shows the interdisciplinary process of providing feeding help to a family.

Dream for Tomorrow (22 min.)

Professional Services Program Dept.
UCP Associates
66 E. 34th Street
New York, NY 10016

The hopes and dreams of children handicapped by cerebral palsy are seen and heard in the sequences filmed in physical therapy, special education, and speech therapy classes at a U.C.P. Center.

Driving with a Disability (16 mm, sound, color, 23 min.)

Driver Education, Health and Safety
Des Moines Public Schools
1800 Grant Avenue
Des Moines, IA 50307

Illustrates adapted equipment used for physically handicapped drivers.

Feeding Techniques (slide/tape 17 min.)

Commonwealth Mental Health Foundation
4 Marlboro Road
Lexington, MA 02173

A presentation of various feeding techniques, demonstrated by a physical therapist,used to develop the feeding skills of a severely handicapped child.

First Things First: Occupational Therapy and the Developing Child (16 mm, sound, color, 15 min.)

American Occupational Therapy Association
6000 Executive Blvd.
Rockville, MD 20852

Demonstrates ways the occupational therapist assists the developmentally disabled child.

Fun With Parachutes (color, 11 min.)

Documentary Films
3217 Trout Gilch Road
Aptis, CA 04003

A visual presentation of selected parachute activities.

Handicapped Go Camping (color, 11 min.)

Bailey Farms, Inc.
6509 Longpre Avenue
Hollywood, CA

An experiment in camp life for both normal and handicapped children.

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H.A.P.: Handicapped Athletic Program (color, 25 min.)

Columbia Forum Productions
10621 Fable Row
Columbia, MD 21043

The story of a parent's effort to establish an athletic program for his retarded son.

Hi - Look Us Over (16 mm, sound, color, 22 min.)

Canadian Association for the Mentally Retarded
York University
4700 Keele Street
Downview, Ontario
Canada

This film stresses the importance of recreation, movement, play, and physical activity in the total development of mentally retarded children.

Just for the Fun of It (18 min., slide, color)

AIMS Instructional Media Services, Inc.
P. O. Box 1010
Hollywood, CA 90028

This film describes the importance of physical exercise in the development of mentally handicapped children. Instructors use music to provide rhythms to follow.

Kinderschool (slide/tape, 12 min.)

Commonwealth Mental Health Foundation
4 Marlboro Road
Lexington, MA 02173

Presents a pre-school program for children with cerebral palsy. Shows these children involved in various activities.

Lifting and Carrying (slide/tape)

Commonwealth Mental Health Foundation
4 Marlboro Road
Lexington, MA 02173

Presents techniques for lifting and carrying a child with cerebral palsy.

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Looking for Me (29 min.)

University of California Extension
Media Center
Berkeley, CA

A film about the work of Janet Adler, a dance and movement therpist. Ms. Adler believes that movement and body language is an important means of communication for psychotic and handicapped children.

Movegenic Curriculum (black and white, 41 min.)

Bureau of Audio-Visual Instruction
P.O. Box 2093
1312 West Johnson Street
Madison, WI 53706

An experimental curriculum for children with learning disorders using a variety of movement activities.

Movement Exploration (20 min., color)

Documentary Films
3217 Trout Gulch Road
Aptos, CA 95003

By a series of challenges, a mentally retarded child is encouraged to participate in a variety of physical activites and is able to function within his limits.

Over, Under, Around (16 mm, sound, color, 18 min.)

Dick Smith
Supervisor of Education, Vocation, and Recreation
Denton State School and Hospital
Denton, TX

This film presents physical and motor activity as the most important developmental area for mentally retarded individuals.

Paralympics (16 mm, sound, color, 15 min.)

Joseph Bulova School of Watchmaking
40-24 62nd Street
Woodside, NY 11317

A film about the Fourth Paralympics held in Heidelberg, Germany in 1972. A brief discussion of the history and purpose of the games as well as selection and financing of the U.S. team.

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Pecos is a Nice Horse (15 min)

Commonwealth Mental Health Foundation
4 Marlboro Road
Lexington, MA 02173

Documents a riding program for children and adults with special needs. Both an introduction and description of a therapeutic riding program.

Recreation Center for the Handicapped (23 min., sound, color)

W.A. Palmer Films, Inc.
611 Howard Street
San Francisco, CA 94105

A film showing the severely handicapped active in a variety of recreational activities.

Sam (16 mm, sound, color, 20 min.)

OSPI Media Services, ETV/ITV
325 South Fifth Street
Springfield, Il . 62706

A documentary about an orphaned epileptic and his personal ambitions and problems. The film shows the dramatic change brought about in him through an adapted physical education program.

Sensory-Motor Development

Commonwealth Mental Health Foundation
4 Marlboro Road
Lexington, MA 02173

A series of films on sensory-motor development in infants and children with Down's Syndrome. Included are: head control, pushing up, rolling over, sitting, crawling and creeping, standing, and walking.

Splash (20 min., color)

Documentary Films
3217 Trout Gulch Road
Aptos, CA 95003

Exercises of large and small muscles in a wading or swimming pool. For teachers, P.T.'s, etc.

BIBLIOGRAPHY

Therapeutic Swimming (slide/tape, 15 min.)

Commonwealth Mental Health Foundation
4 Marlboro Road
Lexington, MA02173

An instructional presentation which provides information about the conduct of a therapeutic aquatics program for children with multiple handicaps.

Therapy Through Play (color, 25 min.)

Albert Einstein School of Medicine
New York University
New York, NY

Physical education at the Human Resource Center. Demonstrates therapeutic qualities of athletic activities for physically handicapped children.

The Surest Test (sound, color, 16mm, 10 min.)

Washington Easter Seal Society
521 Second Avenue West
Seattle, WA 98119

A film on architectural barrier removal. Describes the problems of a mobile individual in a wheelchair as she goes apartment hunting.

To Serve a Purpose (16 mm. sound, color, 15 min.)

Bureau of Education for the Handicapped
Community College Project in Therapeutic Recreation
University of Illinois at Urbana-Champaign
312 Armory Building
Urbana, Il . 61820

A discussion of the purpose of therapeutic recreation. Talked about are the roles of the therapist in a variety of settings with individuals having various handicapping conditions.

Walter (16 mm, sound, color, 15 min.)

Churchill Films
662 N. Robertson Blvd.
Los Angeles, CA 90069

A film showing the wheelchair life of a parapalegic. Deals primarily with overcoming architectural barriers and adapted physical education.

BIBLIOGRAPHY

What Finer Purpose: The Body (16 mm, sound, color, 11 min.)

ICD Rehabilitation and Research Center
340 East 24th Street
New York, NY10010

Presents problems of phyically handicapped persons and what different specialists can do to facilitate each persons adaptation to his/her environment.

ADAPTIVE/DEVELOPMENTAL
ASSESSMENT SCALES

Bayley, N. Bayley Scales of Infant Development. New York: The Psychological Corporation, 1969.

This assessment identifies behaviors in a developmental sequence and allows the tester to rate individual status in any given item. The end score produces the developmental level of the child across all behavioral areas. The standard score for the Mental Scale is called the Mental Development Index; for the Motor Scale it is the Psychomotor Development Index.

Framingham Functional Developmental Profile. Framingham, MA: Framingham State College, 1970.

This profile was compiled from existing developmental scales and references. When completed, the profile will provide specific information on each child's functional level, in contrast to his chronological age, in the developmental categories of motor, communication, cognitive, social-emotional, and self help. The delineated behaviors will serve as the basis for instructional objectives.

Frankenburg, William, M.D. and Joshua B. Dodds, Ph.D. Denver Developmental Screening Test, University of Colorado Medical Center, 1969.

A developmentl screening test assessing personal-social, fine-motor/adaptive, language, and gross motor skills from 0-6 years.

Giannini, M. Rapid Developmental Screening Check List. New York: Committee of Children with Handicaps, American Academy of Pediatrics, New York Chapter 6, District II, 1973.

A compilation of developmental landmarks matched against the age of the child, designed for the use of pediatricians to identify developmental lags that would lead to early diagnosis and treatment.

ADAPTIVE/DEVELOPMENTAL
ASSESSMENT SCALES

Nihira, K., Foster, R., Shellhaas, M., & Leland, H. Adaptive Behavior Scales. Washington, D.C.: American Association of Mental Deficiency, 1975.

This scale consists of a number of statements which describe some of the ways people act in different situations. The scale allows the tester to rate the individual through observation or interview techniques. The screening is done by either identifying behavior or rating its frequency. The data yields a profile summary of the person's performance in relation to others of the same age range.

Schmidt, P. Eating Assessment Tool (E.A.T.) Seattle, WA: Clinical Training Unit, Child Development and Mental Retardation Center, University of Washington, 1976.

This feeding assessment tool is used by various health professionals in th evaluation of children with abnormal or delayd delayed neuromuscular development. The tester identifies skil and/or disabilities in gross motor, oral, eye-hand coordination and feeding behavior skills on a frequency rating scale.

Stillman, R. Assessment of Deaf-Blind Children: the Callier-Azusa Scale. Reston, VA: The Council for Exceptional Children, 1975

A developmental scale designed specifically to aid in the assessment of deaf/blind and multi-handicapped children. The scale is designed to be particularly comprehensive at the lower developmental level.

Ugaris-Hunt. Instrument for Assessing Infant Psychological Development: Sample Examination Record. Urbana, IL: University of Illinois Press, 1975.

This scale lists developmental steps necessary for normal growth and allows the tester to rate the individual against this. Space is also provided to identify infant actions observed in each situation eliciting the desired response in the screening setting.

ADAPTIVE/DEVELOPMENTAL ASSESSMENT SCALES

Developmental Scales to be used in Assessing the Development of Deaf-Blind Children. Denver: Mountain Plains Regional Center for Services to Deaf-Blind Children, 1976.

Deaf-Blind Program and Ability Screening Test. Mississippi: Mississippi Deaf-Blind Evaluation Center, 1976.

Occupational Therapy Department. Developmental Evaluation. Valhalla, NY: Department of Reahbilitation Medicine, Blythedale Children's Hospital, 1975.

MOTOR DEVELOPMENT ASSESSMENTS

Fokes, J. Developmental Scale of Motor Abilities - Training the Developmentally Young. (Beth Stephens, Ed.) New York: The John Day Co., 1971.

The inventory's primary source is the Gesell Scales. "Children vary a great deal in their motor accomplishments and still remain within the limits of normal development. It is sometimes dangerous to specify an age for a particular motor acquisition. With the understanding that children do follow certain developmental trends, a scale of motor development is useful in providing a guide in the study of child behavior. Such a scale also gives evidence of the directionality of development and of the interweaving of movements and skills as mor mature activities are acquired."

Gesell, A., & Amatruda, C. Developmental Screening Inventory: Developmental Diagnosis. Hagerstown, PA: Harper & Row Medical Department, 1974.

This inventory is a screening procedure which can be used to assess the motor development level from 0-36 months.

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